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EXPOSURE OF BLOOD VESSELS

Chairman's Address

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Increasing emphasis placed on physiology and on biochemical methods in the training of surgeons has reduced the study of anatomy to a relatively unimportant position. No one can deny or deprecate the contributions other sciences have made to surgery, but the neglect of training in anatomy, both in graduate and undergraduate teaching, has been a detriment to the skilful performance of many operative procedures. The truth of this statement is readily recognized by those whose duty it has been to train junior surgeons in various centers established for the care of those wounded during the recent war. Men who had served internships and even residencies were woefully lacking in anatomic knowledge, particularly as it related to the peripheral nerves, the blood vessels and even the musculature of the extremities.

Modern textbooks of surgery are, for the most part, concerned with diagnosis and treatment in contradistinction to those of previous generations in which anatomic considerations were dealt with as matters of first importance. Thus, in older textbooks considerable space was occupied by approaches to blood vessels and methods of ligation. The concentration of patients with vascular injuries in centers provided enormous opportunity to study vascular surgery from the standpoint of the symptomatology of these lesions and the disturbed physiology which results from them, and the surgeon was presented with the urgent necessity of reconsidering operative technics dependent on the anatomic approach to the lesion.

The safe and successful accomplishment of an operation on blood vessels requires careful anatomic exposure. Moreover, approaches should be planned with isolation and control of the vessels as the primary objective, a factor usually of far more importance than the surgical attack on the lesion itself. Unless such a plan becomes an integral part of every procedure, hemorrhage may result in a fatality or so interfere with the operation that its successful accomplishment becomes impossible. These procedures, particularly the ones which deal with the treatment of aneurysms and arteriovenous fistulas, are therefore concerned with the exposure and control of major vascular trunks as a preliminary step. When this step has been performed the hazards of the operation are greatly reduced.

It is my intention to point out some of these exposures, none of them new or original except in minor variations, and to record an experience in their use in the course of performing a number of operations on practically every named blood vessel of the body.

Although adequate exposure is a prerequisite to success, care must be exercised in the proper placing of the cutaneous incision. When there is a possible alternative, it should not cross the normal skin folds and creases; and if this is necessary, the incision should be so planned and modified that the skin fold is not cut vertically. This is particularly important in the neck where transverse incisions heal readily with minimum scarring but where vertical incisions frequently lead to unsightly keloid formation. Likewise, the vessels in the cubital and popliteal spaces should be exposed by S-shaped or Z-shaped incisions if a transverse incision is inadequate for proper exposure (fig. 1). Holman [1] has recently pointed out the tendency in certain textbooks to forget or overlook these well recognized principles.

In the approach to the vessels at the base of the neck the clavicle frequently prevents adequate exposure and control of the vessels both proximal and distal to the vascular lesion. It has long been recognized that the removal of a portion of the clavicle will greatly increase the exposure. Subperiosteal removal of a segment of this bone does not interfere with motion, produces no noticeable deformity and is not painful.[2]

Since deformity, nonunion and pain frequently follow replacement of the resected segment, whatever the technic, this bone is best discarded.

To expose these vessels an incision is made over the most prominent portion of the clavicle to be resected and, if necessary, is extended laterally along the course of the subclavian and axillary arteries. Bleeding is reduced by incising the periosteum on the anterior portion of the bone away from the site of muscular attachment. This periosteum strips easily, but the transverse scapular vessels run close to its posterior surface and are easily injured if the layer is torn (fig. 2). The mobilized portion of bone is best

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Read before the Section on Surgery, General and Abdominal, at the Ninety-Fifth Annual Session of the American Medical Association, San Francisco, July 4, 1946.

Note: Exposures of Long Bones and Other Surgical Methods (Bristol, John Wright & Sons, Ltd., 1927.) and Extensile Exposure Applied to Limb Surgery (Edinburgh, E. & S. Livingstone, 1945.) have been used as a starting point for many of the approaches used in this paper. In reporting their application to surgery of the blood vessels considerable credit is due Prof. Arnold K. Henry, author of these practical monographs.

1. Holman, E.: The Placement of Incisions in the Neck, Surg., Gynec. & Obst. **78**: 533, 1944.

2. Elkin, D. C., and Cooper, F. W., Jr.: Resection of the Clavicle in Vascular Surgery, J. Bone & Joint Surg. **28**: 117, 1946.

divided with a Gigli saw. If the sternal end is removed, the cartilage should be excised. A vertical incision through the periosteum at the sternal end exposes the innominate and carotid vessels, or an incision through the central portion gives access to the subclavian vessels and the brachial plexus. Division of the scalenus anterior muscle facilitates exposure of the subclavian artery as well as the origin of the vertebral artery and thyrocervical trunk (fig. 3). Extension of the incision laterally with the cephalic vein as a landmark reveals the interval between the pectoralis major and deltoid muscles, the route to the axillary vessels.

Exposure of the vertebral vessels is difficult both because of the deep position in which they lie in the neck and because of the vital nature of the surrounding structures. Anatomically, the cervical portion of this

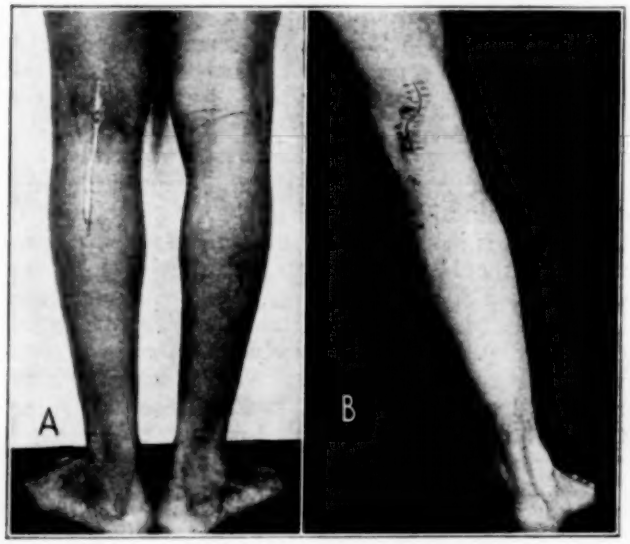

Fig. 1.—*A*, longitudinal incision crossing popliteal space; note ulcerated keloid. *B*, S-shaped incision crossing popliteal space.

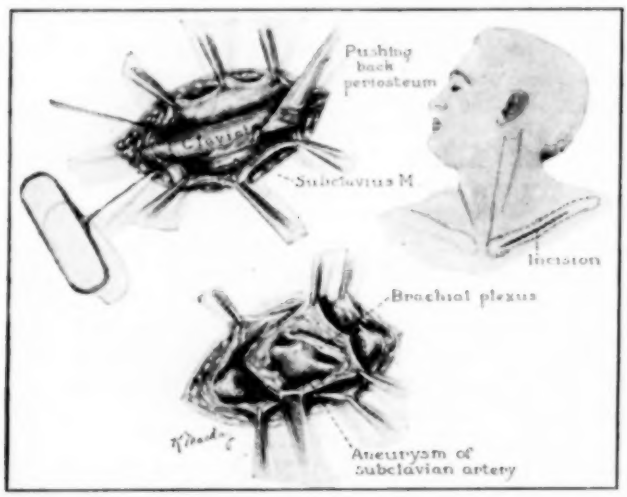

Fig. 2.—Subperiosteal resection of the clavicle for exposure of vessels at the base of the neck.[3]

vessel is divided into three parts: (1) the part passing from its origin in the subclavian artery to the foramen in the transverse process of the sixth cervical vertebra; (2) the part which runs through the foramens in the transverse processes of the upper six cervical vertebrae, and (3) the part which consists of that portion of the vessel extending from the foramen in the atlas to the occipital foramen. The first part can best be reached through an incision parallel to the fibers of the sternomastoid muscle and directly over the interval between

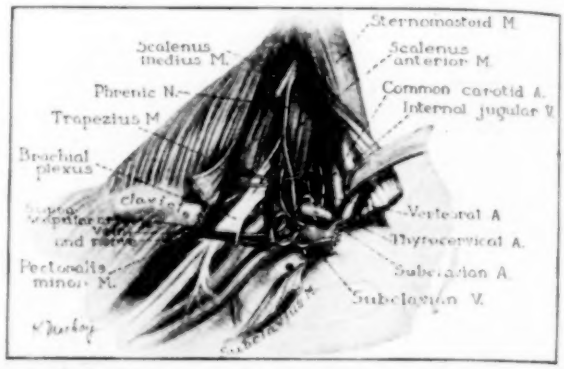

Fig. 3.—Exposure of the vessels at the base of the neck. The medial half of the clavicle has been removed. Medial retraction of the carotid sheath exposes the vertebral and thyrocervical vessels at their origin. Further exposure is obtained by dividing the scalenus anterior muscle. After Henry.

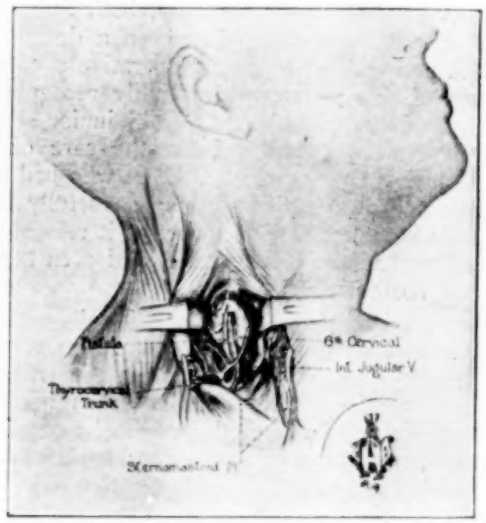

Fig. 4.—Exposure of the second portion of the vertebral artery by incision through the fibers of the sternomastoid muscle. Vessel further exposed by removal of the transverse process of the cervical vertebra (Elkin and Harris, Ann. Surg., to be published).

the sternal and clavicular heads of that muscle (fig. 4). These two heads are separated and the internal jugular vein is retracted medially in order to expose the triangular space between the scalenus anterior and the longus colli muscles. If necessary, no harm is done in dividing the scalenus anterior muscle transversely in order best to expose the vertebral artery which is the first branch of the subclavian (fig. 3). The second portion of the vertebral vessels is reached by an incision along the anterior border of the sternomastoid muscle. This muscle is retracted laterally and the carotid sheath medially. The scalenus anterior muscle which arises from the transverse processes is retracted laterally or may be detached from its origin in order to expose the transverse processes through which the vessels run. For free access to the vessel it is necessary to remove by rongeur one or more transverse processes. Exposure of the third portion and of the upper part of the second portion is even more difficult. These are reached by detaching the insertion of the sternomastoid

muscle and retracting that muscle downward and posteriorly as advocated by Henry.[3] When this is done the tip of the transverse process of the atlas is easily identified. The origin of the levator scapulae muscle is then cut away from the axis and atlas and turned downward, exposing the artery between these two vertebrae as well as its third portion above the atlas (fig. 5).

The approach to the vessels which lie within the thoracic cage is difficult because of overlying structures. This difficulty is immeasurably increased in the presence of an aneurysm or arteriovenous fistula because of the danger of hemorrhage. Excision of the inner portion of the clavicle is sufficient to expose the innominate and carotid vessels as a preliminary to ligation. This is inadequate in the presence of an aneurysm or fistula near the aorta. In view of the danger of hemorrhage, splitting of the sternum to the third interspace, with retraction of the divided portions, does not give adequate exposure of a fistula or an aneurysm. This can be gained by resecting portions of the first and second ribs and a segment of the sternum in addition to removing part of the clavicle (fig. 6).

The route to the brachial vessels is along their course on the inner side of the arm using the biceps muscle as a guide. In the exposure of the lower end of the brachial artery and the upper portion of the ulnar and radial vessels, the cubital space should be opened transversely or through an S-shaped incision. Separation of the brachioradialis and pronator teres muscles will expose the radial artery in the upper portion of its course, and separation of the flexor carpi ulnaris and the flexor digitorum sublimis

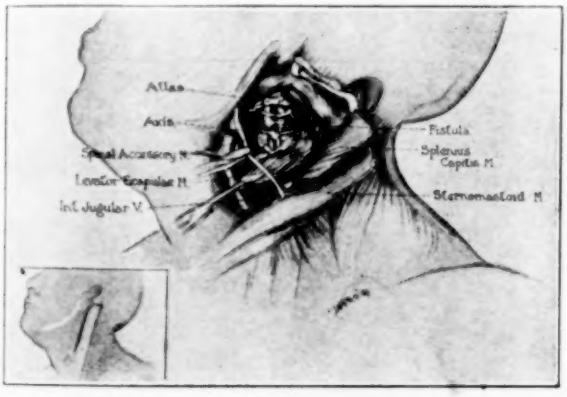

Fig. 5.—Exposure of the third portion of vertebral artery by division of sternomastoid and levator scapulae muscles. After Henry.

will reveal the ulnar artery throughout its course in the forearm (fig. 7).

Access to the iliac vessels is gained through a retroperitoneal approach in which the peritoneum and abdominal contents are displaced medially, much as one would expose the ureter in its lower portion.

The guide to the femoral vessels is the sartorius muscle which in the upper portion of the thigh lies lateral to them and in the middle and lower portion overlaps them in their course in Hunter's canal. The upper popliteal and lower femoral vessels are best reached through an incision just anterior to the sartorius muscle. With the knee flexed and the thigh externally rotated, the sartorius is easily displaced posteriorly when the deep fascia is opened (fig. 8).

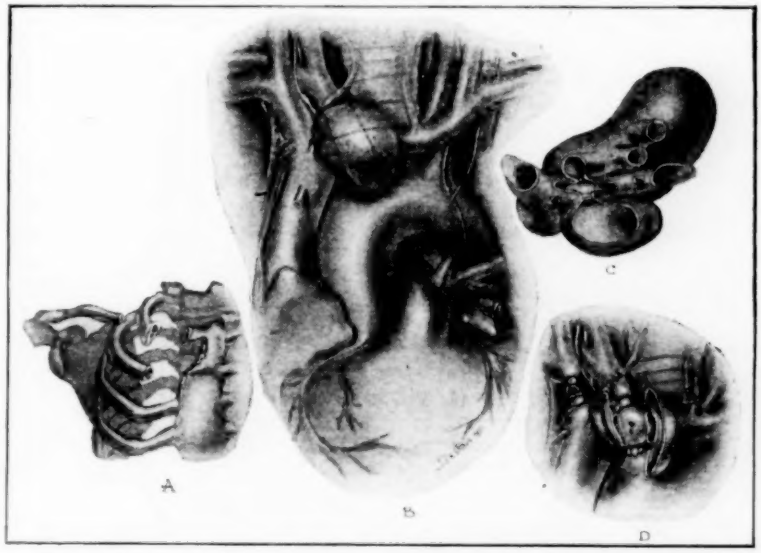

Fig. 6.—Exposure of innominate vessels in case of arteriovenous aneurysm. A portion of the clavicle, first and second ribs and sternum have been removed in *A*; *B* shows the fistula with the false venous sac; *C* is a transverse section showing the false sac and communication between the artery and vein; *D* shows the vessels ligated and divided.

Exposure of the anterior tibial, the posterior tibial and peroneal vessels near their origin is particularly difficult because of the apposition of the tibia and the

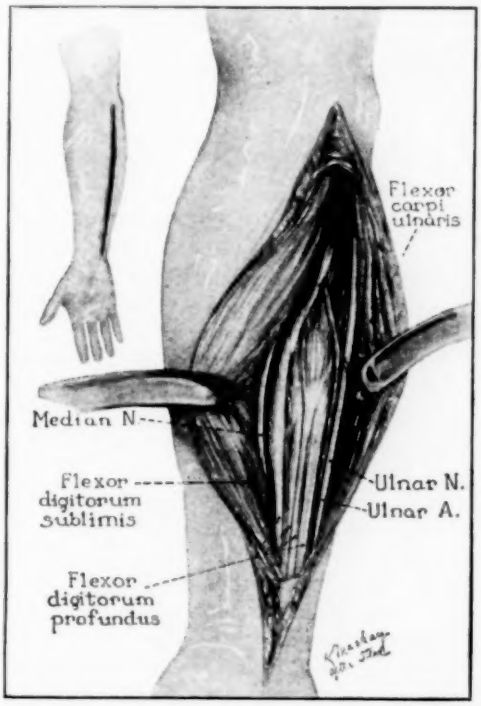

Fig. 7.—Exposure of ulnar artery and nerve. After Henry.

fibula and the dense interosseous membrane between these bones. Retraction of vessels through this interosseous membrane without proper exposure may bring about disastrous hemorrhage. In order to obviate this difficulty the operator may frequently find it necessary to remove the upper portion of the fibula including the

3. Henry, A. K.: Extensile Exposure Applied to Limb Surgery, Edinburgh, E. & S. Livingstone, 1945.

head.[4] Where the fibula is removed subperiosteally there is no instability of the knee joint. To remove this portion of the fibula the patient is placed on the unaffected side, with the knee slightly flexed. Incision is made directly over the fibula beginning about 2 inches

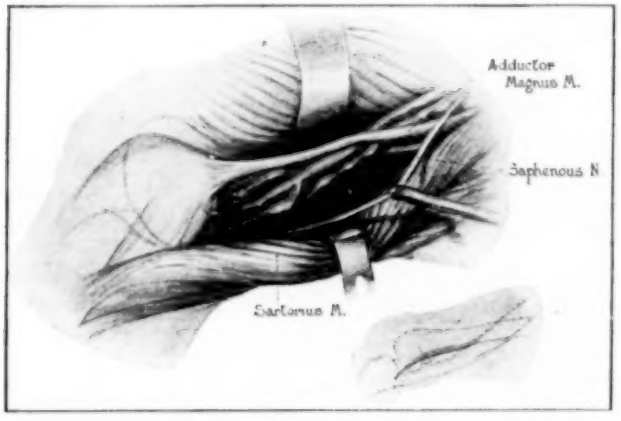

Fig. 8.—Exposure of lower femoral and popliteal vessels by medial approach anterior to sartorius muscle.

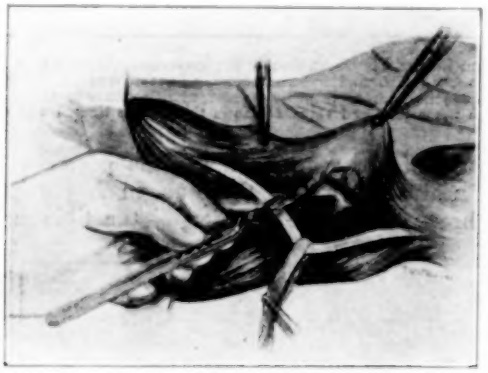

Fig. 9.—Subperiosteal resection of head of fibula for exposure of tibial and peroneal vessels. Note complete mobilization of common peroneal nerve.[4]

(5 cm.) above the head and extending downward about 6 inches (15 cm.).

After the skin and superficial fascia are divided at the upper end of the incision, the deep fascia is opened at the medial edge of the biceps tendon. As the common peroneal nerve is easily exposed at this point, the identification and mobilization of it should be done for its protection (fig. 9). The deep fascia is opened over the course of the nerve downward along the posterior margin of the biceps tendon. The fascial origin of the peroneus longus muscle lies directly over the groove in which the nerve passes forward across the neck of the fibula. This fascia is divided (fig. 9) and the nerve further mobilized. A definite plane, the lateral intermuscular septum, between the soleus muscle posteriorly and the peroneus longus muscle anteriorly, is carefully developed, and when the muscles are separated the lateral border of the fibula is exposed. By the use of sharp dissection and a periosteal elevator the periosteum can be readily stripped from the fibula and its division accomplished by means of a Gigli saw. The subperiosteal removal of the head is more difficult and is best carried out by sharp knife dissection, keeping the blade of the knife directly against the bone and retracting the peroneal nerve completely out of the field of incision. With removal of the head and upper portion of the fibula, the distal part of the popliteal artery with its terminal branches is exposed. The resected portion of the bone should not be replaced, since there is no instability of the knee joint or other impairment of function traceable to its absence.

Exposure of the tibial and peroneal vessels in the lower third of their course can be carried out without resection of the fibula. Here the incision is made on the medial side of the leg, 1 fingerbreadth posterior to the border of the tibia. It may be extended upward by detaching a portion of the soleus muscle from its origin on the tibia (fig. 10).

Whenever possible, making an incision on the sole of the foot should be avoided, since the scar is usually painful on weight bearing. To approach the plantar

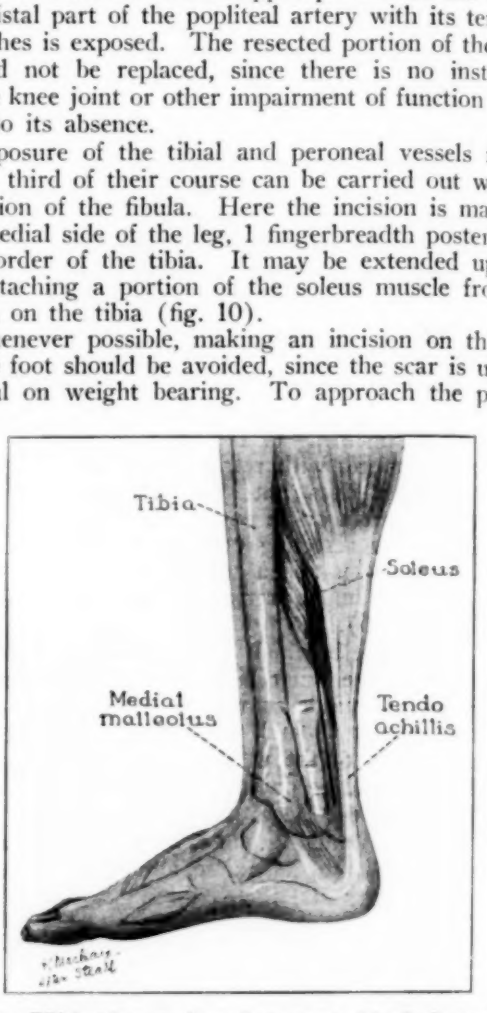

Fig. 10.—Tibial and peroneal vessels are exposed in the lower third of the leg through an incision 1 fingerbreadth posterior to the tibia. It can be further extended by detaching the soleus muscle from its tibial origin. After Henry.

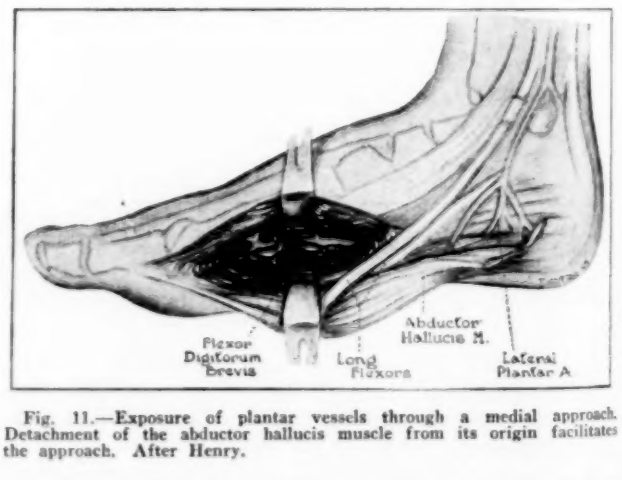

Fig. 11.—Exposure of plantar vessels through a medial approach. Detachment of the abductor hallucis muscle from its origin facilitates the approach. After Henry.

vessels, therefore, an incision is made on the medial side of the foot, the abductor hallucis muscle is detached from its origin, and the vessels together with the tibial nerve are traced into the deeper structures of the foot (fig. 11).

4. Elkin, D. C., and Kelly, R. P., Arteriovenous Aneurysm: Exposure of the Tibial and Peroneal Vessels by Resection of the Fibula, Ann. Surg. **122**: 529, 1945.

ORTHOPAEDIA MCMXLVI

Chairman's Address

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In resuming regular meetings of the Section of Orthopedic Surgery after four years of confusion both I and my associates who remained at home and you who entered military service find a number of problems to consider. We are delighted to have you back and hope that you have already become established in congenial activity. You were fortunate indeed to have entered service as orthopedic surgeons. Because you were of that specialty you have had more active and interesting assignments than most of the other medical officers.

Some of you have had under your observation a mass of material that can never be duplicated in civilian life and have taken advantage of it to develop new methods of treatment that in the years to come will more than balance in savings of life and limb the tragic costs of the war. We hope to be smart enough to follow your lead in applying them intelligently in our future practice.

This war, as did the preceding one, has given the orthopedic surgeon a tremendous push in the direction of traumatic surgery, so strong an impulse that there is again danger of forgetting the problems that gave birth to the specialty. Persons of military experience only may assume the title of orthopedic surgeon when that of traumatic surgeon would be more fitting. In witness of this may I cite a personal experience of the previous war.

After I decided to enter the practice of orthopedic surgery in a city of about 150,000 inhabitants I accepted an appointment to another year of hospital service before going to work. By the end of that year four other men whom I had known in service had gone into this town as orthopedic surgeons with only their army experience to rely on. None of these four are now listed as orthopedists.

I have mentioned this experience to introduce a question that I have been unsuccessfully trying to answer for a long time. What is orthopedic surgery? What is its scope, and in a medical school, hospital or group clinic which patients, what diseases or what didactic subjects shall be assigned to the orthopedist? Can this or any other surgical specialty be satisfactorily defined and its borders sharply marked?

James Knight, in 1884, referred to the contents of his book "Orthopaedia" as a discussion of "the aberrations of the human body and tendencies thereto." He included in his dissertations hernia, procidentia uteri and varicose veins because they were treated with appliances. There was no word of fractures or dislocations.

When I arrived in Cleveland in 1920 the then professor of surgery considered orthopedic surgery to embrace only those diseases that could be treated with apparatuses. Only two of the local hospitals had departments of orthopedic surgery and only one of these included fractures in its scope.

All surgical specialties are outgrowths from the parent stalk of general surgery, and the parent is often loath to recognize its offspring, particularly to admit that the scion may in certain respects surpass the parent in fruition. Specialties develop because individual surgeons become more interested in certain problems, study them more intently and become more adept in treating them. Their superiority in the specialty is recognized, and this particular type of patient is referred to them. As the specialty becomes established younger surgeons of kindred likes are apt to skip the intermediate steps and enter directly into the special field. I believe that the time saved by this short cut is dearly bought. I have felt throughout my professional life the handicap due to the lack of a year or two at least of general surgical training.

A staff committee recently appointed to define the various specialties for hospital procedure reported after many heated discussions that there is bound to be about all specialties a zone of public domain into which the general practitioner and the other specialists enter, and that the division of patients was a matter of local custom.

Unable to find a satisfactory statement of scope of orthopedic surgery I endeavored to learn what the members of this specialty were actually doing in their daily work. Particularly I wanted to know how strong was the tendency to include the treatment of fractures in their routine. I compared the titles of papers published in the *Journal of Bone and Joint Surgery* during successive decades and those of papers read at the meetings of this section and the other orthopedic conventions but soon realized that the editors and the program chairmen were deliberately keeping a balance between orthopedic and traumatic subjects. The change of the title of the journal itself would seem to be a very definite official step to include traumatic surgery in the scope of "Orthopaedia."

I then wrote to the resident orthopedic surgeons in the approved orthopedic residencies listed by the American Medical Association, asking how they spent their time. I found first that due to the activities of the Procurement and Assignment organizations more than one third of the residencies were discontinued for the duration of the war; the old story of the goose and the golden egg.

Most approved orthopedic residencies are, of course, in hospitals affiliated with medical schools. The others are divided among hospitals for crippled children, clinic foundations and a few independent hospitals. The replies to my inquiry indicated a great variation in the scope of orthopedic surgery in the different institutions. The clinic foundations, I believe, are the better balanced between orthopedic and traumatic surgery. Their great disadvantage seems to be that their residents are less fortunate in actually performing major procedure themselves. The independent hospitals are mostly top-heavy on the traumatic side and the crippled children's organizations on the other. These inequalities are being adjusted by affiliations among the organizations to provide each resident with thorough instruction in the basic sciences, children's orthopedics, adult orthopedics and traumatic surgery.

The medical schools vary greatly in their departments of orthopedic surgery. Some of them are headed by professors, but most by associates and assistants. Most of them have no, or little, part in teaching or treating fractures. Yet when a great national emergency arises fractures are assigned to the orthopedists. Practically all orthopedists treat fractures and nearly all advances in that field have come from orthopedic sources. Malunited, ununited and particularly difficult fractures have long been assigned us, but not the simple ones. If our

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special interest in the anatomy, physiology and pathology of the skeletal system and in surgical mechanics makes us more adept at managing diseases of these parts the same must apply to their injuries.

Your joint committee on postgraduate training is doing a fine piece of work in equalizing residencies and organizing orthopedic teaching facilities. I sincerely believe that the future of the specialty will be favorably affected by the accomplishments of this committee, and knowing the members as I do I have the greatest confidence in the ultimate result of their efforts.

It is more difficult to be as optimistic about undergraduate orthopedic education as about the graduate stage, which rests more completely in our own hands. Each medical school is a separate independent organization and its curriculum is determined by its own authorities. The existing status of the orthopedic surgeon and his didactic assignments apparently represent the relative degree of belligerence and aggressiveness of the past or present orthopedic and general surgeons. The committee on undergraduate education in orthopedic surgery has a difficult assignment. Solution of the problem might be aided through the agency of the foundations which contribute to the support of many of the medical schools and through the parent medical school organizations themselves.

So-called old fashioned orthopedic diseases have diminished greatly in incidence. Skeletal tuberculosis, rickets, osteomyelitis and extreme contractures subsequent to poliomyelitis which filled the hospital wards twenty-five years ago are encountered much less frequently. Even congenital defects seem less numerous. The rapidly increasing number of orthopedic surgeons, estimated by Dr. Caldwell to be doubled or trebled within five to ten years, must necessarily find employment more and more in the traumatic field. Residents must be trained more and more in traumatic surgery but certainly not less in caring for "the abberations of the human body and tendencies thereto."

Though I have been unable to define orthopedic surgery or to delimit its scope, I have recently found a paragraph which covers most adequately the thought that I am trying to convey to you. It is from the source of so much that is lasting in this specialty; that keen mind that has for sixty years taught the basic principles of surgical mechanics. Intolerant of carelessness, indolence and bluff in surgical performance and writing, meticulous in his own work and expression, Royal Whitman [1] writes: "The ancient ambiguous but irreplaceable term 'orthopaedic,' which for those who accepted its restrictions was an insuperable obstacle to its progress, is now generally understood as indicating only a sphere of action. As such, it is especially concerned with the impairment of bodily structure and function from any cause, and with prevention and cure, as well as with relief. This is a broad, ill-defined, expanding, and consequently only partially charted therapeutic field, in which orthopedic treatment, although it has no preferential jurisdiction, retains as a special attribute a 'follow through.' Thus a purposeful initiative is supplemented by equally purposeful after-care, which is often the determining factor in the result, if reckoned in terms of useful function."

In other words, orthopedic surgery is not a sharply circumscribed field, but a progressive endeavor advancing with medical science and applying within its enlarging scope all the discoveries that pertain thereto.

1. Whitman, R.: A Review of the Inception and Development of a Type of Reparative Surgery Adapted to Bodily Mechanics, J. Bone & Joint Surg. **28**: 374 (April) 1946.

What has brought about the rapid diminution in the incidence of those diseases that formerly occupied the entire time of the orthopedic surgeon? Certainly not his development of better methods of treating their effects. Tuberculosis, rickets and osteomyelitis have decreased because of discoveries in bacteriology, hygiene, nutrition and chemistry, for none of which the orthopedist can claim priority. He is, however, entitled to credit for reducing morbidity and mortality due to their ravages.

Has the orthopedic surgeon been diligent enough in solving the basic problems in his field of work? Has his energy been too much involved in reclamation and rehabilitation? It is important, but it is not enough that new operative technics be developed to relieve the effects of diseases. More must be done about solving their fundamental problems. There are great vistas open for research in orthopedic fields. Some members of this specialty have been crusaders in exploring them. This section must encourage such studies in every possible manner. It must stimulate other orthopedic centers which have not been so prolific in the last twenty-five years. I don't mean simply in the publication of an ascribed number of papers per year. One worthwhile publication in a lifetime is better than a number written just to meet a quota. These are too apt to be premature or stillborn and later on to be disowned by their progenitors. I hope that I may live long enough to some time read an author's published acknowledgment of the futility of his issue. It should not be necessary for the too credulous to learn individually by tragic experience of the fallacy of a procedure which long ago has been found inadequate by its author or by others.

Research in orthopedic surgery has recently been greatly stimulated by nonprofessional groups, particularly the National Foundation for Infantile Paralysis and the Shriners. Even Sister Kenney, by needling our tender skins, has aroused a flurry of investigation to prove the fallacy of her claims. The foundation by its financial grants to existing scientific institutions and the shrine through its expanding research program have challenged those established centers of orthopedic teaching that have been content to roll along in a trailer, contributing nothing to the motor power of progress.

It is quite possible that we are becoming too ingrown, too content to "play with our own blocks." Are we reaching the general practitioner to help him in the orthopedic problems which he meets in his daily work? I am glad to see that there are two papers on orthopedic subjects being read before the Section on General Practice of Medicine at this session. After all we and the other specialists exist fundamentally to support, not to supplant, the general practitioner.

There are developing specialists within our specialty, for example, the hand and plastic surgeons, who do better work in these problems than do the rest of us. This is bound to occur as persons follow their natural bents. It leads to more rapid progress along certain lines. I believe that these narrower specialties, as well as all others, should be approached from a sound basis of general surgical knowledge. First, one is a doctor of medicine, then a surgeon, then a surgical specialist. If a person desires to concentrate his efforts on a smaller portion of his specialty, well and good. This Section of the American Medical Association should do everything in its power to encourage progress throughout the orthopedic sphere of action, expand its

therapeutic field and never lose sight of that attribute of "follow through" to which Dr. Whitman referred.

We orthopedic surgeons come to the 1946 meeting of the section with our reconversion to peace time activity well under way and with the knowledge that our members, on both the home and military fronts, have upheld the traditions of the medical profession and of orthopedic surgery. Knowing of the progress already made in planning and preparing greater opportunities in orthopedic training than have ever before existed, we have great confidence in the future of our specialty.

I have greatly enjoyed being chairman of the section and thank you sincerely for granting me that honor.

VIRUS DISEASES OF THE NERVOUS SYSTEM

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The clinical pictures of virus diseases of the nervous system do not depend on peculiarities of the viruses which cause them but on the location of the lesions produced. Irritative and destructive agents, regardless of their characteristics, produce similar clinical pictures if and when they attack the same parts of the brain and cord. In view of this fact, the determination of the kind of virus involved in individual cases, and at times in epidemics, can be made only by laboratory procedures. Frequently, pathologic examinations do not suffice, and additional informaton must be obtained by the isolation and identification of the etiologic agent or by serologic tests in order to be assured of correct diagnoses. One might not be surprised to find it difficult or impossible from clinical observations to distinguish between the St. Louis type of encephalitis and the eastern or western equine types. On the other hand, many will be shocked to learn that on a number of occasions rabies has been mistakenly diagnosed as poliomyelitis. Since physicians are interested in the diagnosis, mode of transmission, prevention and treatment of disease, most of my remarks will be confined to these matters.

The diseases to be considered are rabies, poliomyelitis, St. Louis encephalitis, eastern equine encephalitis, western equine encephalitis, Venezuelan equine encephalitis, Japanese B encephalitis (Russian autumn encephalitis and Australian X disease), Russian spring-summer encephalitis, lymphocytic choriomeningitis, louping ill, B virus encephalitis, mumps meningoencephalitis, lymphogranuloma venereum encephalitis, herpes simplex encephalitis, von Economo's encephalitis and Guillain-Barré's disease. The diseases mentioned are either known to be caused by a virus or are suspected of having a virus etiology. There is another group of encephalitides that must be considered; they are usually spoken of as postinfectious and postvaccinal encephalitides and occur occasionally after vaccination against rabies and smallpox and after chickenpox, measles, influenza, mumps and other infections. In certain instances, for example when the involvement of the nervous system is a complication of mumps or measles, the virus of the primary disease may be the cause of the encephalitis. In most instances, however, the cause of such encephalitides is not known, and there is doubt concerning a virus etiology. The type of lesion seen in this group is not usually found in the encephalitides caused by the direct action of a virus. Viruses attack and kill cells, and the lesions of virus encephalitides are found for the most part in the gray matter. In the case of the postinfectious encephalitides, however, the lesions usually occur around veins in the white matter and are characterized by microglial proliferation and demyelination.

Rabies.—Rabies is one of the oldest virus diseases known and is indigenous to lower animals. Man is infected through the bites of rabid animals. The virus is strictly neurotropic and is never found in the spinal fluid or blood of man. There is no laboratory test to aid in making a clinical diagnosis. Diagnosis after death is made by finding Negri bodies in the brain or by suitable animal passages. There is no specific treatment once the disease has been established. Vaccination as soon as possible after a bite from a rabid animal is mandatory. Rabies will not be eradicated soon, because its reservoir is in wild animals, such as foxes, coyotes, wolves, skunks, vampire bats and mongooses. Control of the disease lies in the licensing and vaccination of dogs.

Poliomyelitis.—Poliomyelitis is not a newcomer to the virus field, but still presents many problems of diagnosis, prevention and treatment. The virus apparently attacks only nervous tissue, is not found in the spinal fluid, and only rarely has it been detected in the blood of human beings. The virus may be found in throat washings and is usually quite abundant in the feces of infected persons. Paralytic poliomyelitis is not often diagnosed incorrectly during an epidemic. However, in the absence of an epidemic individual cases present diagnostic problems, as do nonparalytic and abortive cases both during and between epidemics. There is no rapid laboratory test to confirm a clinical diagnosis. Demonstration of virus in the feces is helpful, but the patient is either dead or on the road to recovery before this can be accomplished. Neutralization tests on specimens of acute-phase and convalescent serums are not particularly helpful, because there are several immunologic strains of poliomyelitis virus. There is no complement fixation test available at the present time. At necropsy, the diagnosis is made or confirmed in the presence of distinctive pathologic lesions and the demonstration of poliomyelitis virus in the brain or spinal cord.

Ideas regarding the transmission and pathogenesis of this disease have gradually undergone considerable change. For a long time it was considered that the virus entered and left the upper part of the respiratory tract, and that droplet infection accounted for most of the infections. Recent findings of large amounts of virus in the feces and the idea that the mouth and pharynx constitute the most likely portal of entry in man more or less place this virus disease in the category of those with a mode of spread similar to that of typhoid fever and dysentery. Such action receives further support from the fact that poliomyelitis virus has been found in flies caught in nature. Since the virus is hardy and is present in feces, it is obvious that under certain conditions it may be transmitted in contaminated water, milk and food. While flies may play a role in the contamination of milk and food, it is generally believed that such a role is not a major one in the spread of the virus. At the present time most workers believe that poliomyelitis is usually disseminated through contact, and

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that the feces of infected people or carriers are the source of the infectious agent.

That such a mode of transmission can account for the spread of a disease in which the virus is found in the feces was driven home to me by my experience with hookworm in native infants on Guam. From a small cotton blanket on which an infant with hookworm had rested for twenty-four hours, and which showed no visible evidences of fecal contamination, 20,000 infective hookworm larvae were obtained after the blanket had been kept in a moist condition for five days. After such an experience, I have become more than ever convinced that many persons and their clothes are invisibly but dangerously contaminated with feces.

DDT sprayed from airplanes has been used to kill flies in the control of poliomyelitis. How much good this does is questionable, because no one is certain of the part flies play in the spread of the disease, and, furthermore, neither a lasting nor an economical control of flies is effected in this manner. Such a procedure for the control of flies, filth-inhabiting insects, might be considered analogous to the substitution of airplane sprays of soapy water for personal cleanliness.

The old problem of prevention and cure of poliomyelitis by means of convalescent serum is still debatable. I do not wish to venture a conclusion regarding the prophylactic value of convalescent serum or human immune globulin. I suppose that if enough homologous antibodies were given to a child prior to or shortly after infection, evidences of the disease would be prevented. At present, however, pooled convalescent serum should be used with care because of the likelihood of transmitting serum jaundice. There is no good evidence that serotherapy of poliomyelitis after clinical manifestations appear results in appreciable benefit.

Now I come to a group of encephalitides which have been shown within the last fifteen years to be caused by viruses. There is evidence that all of them are transmitted by insects or arthropods. At first, some of them were thought to be primarily diseases of horses or human beings. At the present time, however, it is generally held that viruses of these maladies have host reservoirs in lower animals, including birds, and that their activities in man and horses are only accidental occurrences in their ecology.

St. Louis Encephalitis.—The virus of St. Louis encephalitis was discovered in 1933 and can be obtained from the brain at necropsy but rarely, if ever, from spinal fluid or blood during life. Clinical diagnosis is confirmed by neutralization or complement fixation tests. The virus has been experimentally transmitted by mosquitoes and chicken mites and has been found in mosquitoes caught in nature.

Western Equine Encephalitis.—For a time it was not appreciated that western equine encephalitis could attack human beings. Now, however, it is known that it can produce serious epidemics in man; in 1941 approximately 3,000 cases and 200 deaths occurred in North Dakota, Minnesota, South Dakota, Manitoba, Montana and Nebraska. The virus rarely, if ever, is found in the blood or spinal fluid of human beings. Clinical diagnosis is confirmed by means of neutralization and complement fixation tests. The disease has been experimentally transmitted by mosquitoes, and mosquitoes caught in nature have been shown to carry the virus.

Eastern Equine Encephalitis.—Eastern equine encephalitis has occurred in human beings in Massachusetts and Texas. The virus is not easily obtained from spinal fluid or blood. Clinical diagnosis is confirmed by means of neutralization and complement fixation tests. The disease has been experimentally transmitted by mosquitoes, but the virus has not yet been found in mosquitoes caught in nature.

Venezuelan Equine Encephalitis.—Venezuelan equine encephalitis occurs in horses of South America. There have not been many cases reported in human beings, and most of them have resulted from accidental laboratory infections. The virus is obtained easily from the blood and throat washings of human beings. Clinical diagnosis is confirmed by means of neutralization and complement fixation tests. Little is known concerning the role that mosquitoes or other insects play in the transmission of the disease.

Japanese B Encephalitis.—Japanese B encephalitis occurs in Japan and nearby areas and is considered identical with Russian autumn encephalitis. In 1917, an encephalitis occurred in Australia which has been spoken of as Australian X disease. The virus causing the malady has been lost, but from its known characteristics most workers believe that Australian X disease and Japanese B encephalitis are similar, if not identical. The virus of Japanese B encephalitis has been obtained from spinal fluid and blood, but from my experience on Okinawa it would appear that it is rarely present at the time patients present themselves for treatment. Clinical diagnosis is confirmed by neutralization and complement fixation tests. Several kinds of mosquitoes are capable of transmitting the virus experimentally, and Japanese workers have reported that the virus has been obtained from mosquitoes caught in nature.

Russian Spring-Summer Encephalitis.—Workers in America do not have firsthand knowledge of the clinical picture of Russian spring-summer encephalitis; however, they have had an opportunity of working with the virus. It has been reported that the virus can be obtained from the spinal fluid and blood of patients. Clinical diagnosis is confirmed by neutralization and complement fixation tests. This is a tick-borne disease and usually attacks adults who go into forests in spring and summer to cut wood. Webster and Casals have shown that Russian spring-summer encephalitis is immunologically similar to, if not identical with, louping ill, a tick-borne disease of sheep in Scotland.

The diseases in the group just discussed, while being spoken of as encephalitides, are caused by viruses which are not strictly neurotropic. Indeed in some instances, for example in Venezuelan equine encephalitis, the disease in human beings may resemble an attack of influenza. These encephalitides also have another feature in common, namely, the fact that they usually attack adults and in some instances predominantly adult males; this is particularly true of Russian spring-summer encephalitis and western equine encephalitis. Perhaps this is best accounted for on the ground that adult males are more frequently exposed. On the other hand, the outbreak of eastern equine encephalitis in Massachusetts attacked children predominantly, and the Japanese B encephalitis studied on Okinawa was largely in native children. On Okinawa, Japanese B encephalitis is endemic, and most of the adults are immune; that probably accounts for the predominance of cases in young people.

There are two approaches to the problem of prevention of these encephalitides. One is through the control

of insect vectors or the prevention of contact with them. The other is through the use of vaccines. Formaldehyde-treated vaccines have been prepared for the protection of human beings and horses against the eastern and western forms of equine encephalitis. A vaccine has been prepared against St. Louis encephalitis but has not been used on a large enough scale to warrant statements concerning its efficacy. The Russians have reported that they have an efficacious vaccine against their spring-summer encephalitis. They also have reported that they have a vaccine against Japanese B encephalitis; it consists of infected mouse-brain material inactivated by solution of formaldehyde. The United States Army has prepared a similar vaccine which has not received sufficient trials to warrant statements concerning its effectiveness.

There is, as yet, no specific treatment for the encephalitides just discussed. Certain workers have urged the use of immune serums. In case of known exposure, particularly in the laboratory, it is advisable to use large amounts of immune serum in the hope of preventing evidences of infection. On the other hand, when evidences of an infection have become manifest, it is not likely that a great deal of good will be obtained by the use of immune serums.

Louping Ill.—Louping ill is a tick-borne disease that occurs in sheep in Scotland. Several cases have been described in laboratory workers. The virus is immunologically similar to, if not identical with, the Russian spring-summer, tick-borne encephalitis of man. The virus is not readily found in the spinal fluid or blood of man, and clinical diagnoses are confirmed by means of complement fixation and neutralization tests.

B Virus Encephalitis.—Three human beings are known to have been infected by B virus. The disease was acquired through the bites of monkeys, and all the patients died. The virus is pantotropic and produces typical acidophilic nuclear inclusions.

Lymphocytic Choriomeningitis.—The virus of lymphocytic choriomeningitis attacks the central nervous system, particularly the meninges, as well as many other tissues in the body. Frequently, the disease caused by it resembles a mild attack of influenza. As a rule, cell counts in spinal fluid are higher than those in other virus diseases of the central nervous system with the exception of mumps meningoencephalitis. The virus is obtained easily from spinal fluid and blood. A clinical diagnosis is confirmed by complement fixation and neutralization tests. Wild mice caught in nature have been shown to be infected by the virus, and the epidemiology of the disease in some way is associated with this rodent host.

Mumps Meningoencephalalitis.—Before, during or after the appearance of a parotitis and sometimes in the absence of involvement of the parotids, mumps virus attacks the central nervous system, producing most frequently a picture of meningitis. Indeed, some workers are of the opinion that involvement of the central nervous system is the most important part of the mumps picture and occurs in practically every case. Others, however, do not believe in such a widespread occurrence. I sanction the second opinion. Cell counts in spinal fluid are usually higher than those in other encephalitides with the exception of lymphocytic choriomeningitis. The virus has been found in the saliva, spinal fluid and blood of human beings. Clinical diagnoses are confirmed by neutralization and complement fixation tests. From recorded pathologic observations, it appears that two types of encephalitis have been observed in connection with mumps: one in which there was evidence of direct action of a virus on the meninges, brain and cord; the other in which perivascular microglial proliferation and demyelination were prominent in a pathologic picture similar to that observed in the postinfectious encephalitides, the etiology of which is not known.

Lymphogranuloma Venereum.—Recently, it has been shown that the virus of lymphogranuloma venereum may attack the central nervous system; it has been obtained from spinal fluid.

Herpes Simplex Encephalitis.—Herpes simplex virus causes fever blisters. Some years ago, Levaditi isolated the virus from a case of encephalitis and insisted that it is the cause of von Economo's disease. It is now known that this agent does not cause von Economo's encephalitis. On the other hand, it does occasionally attack the brain and cord of human beings, and recently it has been recovered from the brains of persons dying of encephalitis. The pathologic picture in man is similar to that of the encephalitis experimentally produced in lower animals; numerous typical acidophilic nuclear inclusions are found everywhere in the infected tissues. Inasmuch as most human beings have antibodies in their blood against herpes simplex virus, it is questionable whether or not serologic tests would aid in a clinical diagnosis of this type of encephalitis.

Nervous Diseases of Unknown Etiology.—During and shortly after World War I, an encephalitis which now is generally known as von Economo's disease was recognized and described. A number of agents have been reported as being of etiologic significance. At present, however, it is generally believed that the cause of the disease has not been discovered, although most workers believe that a virus is responsible. In recent years, few if any cases of the malady have been recognized. The striking features of the disease are the dysfunction of the eye muscles resulting from lesions in the central nervous system and the distressing sequelae, one of which is a parkinsonian syndrome. This disease has been called lethargic encephalitis, sleeping sickness and epidemic encephalitis. None of these names are suitable, and they should be dropped because of the confusion which results from their use.

Guillain-Barré's disease presents many bizarre signs and symptoms which result from involvement of the central nervous system, the most striking being the large amount of protein in the spinal fluid with relatively few cells. Many workers believe that a virus causes the disease, but numerous attempts to isolate the agent have met with failure.

In addition to the diseases of unknown etiology already mentioned, others are seen in which there are evidences of involvement of the central nervous system and for which no causative agent has been discovered. These fall into a large group usually spoken of as the benign or aseptic meningitides. While for most of these meningitides no causative agent has been discovered, some cases so diagnosed would fall into groups of diseases of known etiology, for example, abortive poliomyelitis, lymphocytic choriomeningitis or one of the equine encephalitides, were proper laboratory tests employed.

Diagnostic Value of Laboratory Tests.—In the early part of the talk, it was pointed out that generally, if not universally, the correct diagnosis of virus diseases

of the nervous system of man requires the aid of laboratory tests. In all the diseases of the central nervous system of known etiology the virus has been obtained from the brain or cord with the exception of louping ill from which no deaths in man have been recorded. Exclusive of Russian spring-summer encephalitis, lymphocytic choriomeningitis, mumps meningoencephalitis, Venezuelan equine encephalitis, herpes simplex encephalitis and lymphogranuloma venereum, the viruses that attack the nervous system are so rarely found in the blood or spinal fluid that to seek them in these materials is not worth while for clinical purposes. In all of the diseases of known etiology under discussion, with the exception of rabies, poliomyelitis, lymphogranuloma venereum and herpes simplex encephalitis, neutralization or complement fixation tests are now available for the confirmation of clinical diagnosis. These tests should be used as frequently as possible, but if the time of the laboratory worker is not to be wasted an understanding on the part of the practicing physician of what the tests mean and how and when blood for them should be taken is absolutely essential. Often, a specimen of blood is sent in with a request that a virus diagnosis be made, without any indication of what disease the patient might have or of when the blood was taken in relation to the onset of illness. In order for the result of a neutralization or a complement fixation test to be of value, at least two specimens from each patient should be taken. A positive neutralization or complement fixation test on only one specimen means that the patient at some time in the past has been infected with a particular virus. If two specimens are taken, one as soon as possible after onset of illness and the other late in convalescence or soon after recovery, and if the acute-phase serum gives a negative test and the convalescent serum a positive one, then it can be said with assurance that the disease by which the patient is currently affected is caused by the virus indicated by the positive test in the second or convalescent specimen. In other words, if antibodies against a virus are absent early in the course of a disease and appear during convalescence, it is reasonable to believe that this agent is the cause of the disease under consideration. Aseptic precautions should be used in collecting blood, and the serum should be removed from the clot as soon as possible and refrigerated if it is not sent to the laboratory immediately. In conclusion, I wish to urge practicing physicians to make use of virus laboratories more frequently, to learn what materials should be collected for different tests and to see that the laboratory worker gets these materials in a condition suitable for examination.

Special Boards.—The widening scope of medical knowledge, in addition to requiring vastly more information and preparation of the modern doctor, has made it necessary for some to devote still more time and effort in perfecting themselves in special departments; therefore special fields developed and more recently special examining boards to determine minimal standards of performance in these specialties. The operation of the several boards of medical specialties, designed primarily for the protection of the public, has resulted in an amazing and unanticipated stimulation of thousands of young doctors to spend at least five additional years in preparation in their chosen specialties. Whether or not they finally pass the boards, the quality of their current and subsequent service to the public is greatly enhanced, and a further improvement of medical public service results.—Irons, Ernest E.: Medicine and Education, *Annals of Internal Medicine*, August 1946.

TODAY'S TREATMENT OF SYPHILIS

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The fluid state of the treatment of early syphilis during the past ten years and the uncertain status today of the value of penicillin seem reasons enough for this paper. Twenty years ago it was not difficult to present in a summary several treatment programs for the various manifestations of syphilis because it was thought then that the limitations and the accomplishments of the remedies employed were well known. Today it does not seem advisable to summarize the results of evaluation studies or to attempt to estimate the future of penicillin therapy of syphilis, because new ideas and concepts are constantly developing in regard to it. The appraisal of penicillin is still going on and must be continued for several years before the real value of this remedy in syphilis will be known. It is impossible now to present to the physician who occasionally treats patients with syphilis new treatment programs that experience has shown are firmly entrenched. It is possible, however, to call attention to some of the methods that should not be used and also to point out the systems of treatment that have had the lowest rate of failure to date.

During the first five years of experience with a new remedy for syphilis the rate of failure, as estimated by serologic or clinical relapse of the disease, is the basis for its evaluation, as the successful results, in other words, the "cure rate," cannot be accurately estimated during this time. The comments made herein, therefore, are to be looked on as the result of experience to date with a few of the older methods of treatment and a shorter experience with penicillin. The suggestions to be made are by no means conclusive and no doubt will be revised and amplified often in the years to come. The treatment of syphilis with penicillin is today in about the same status that treatment with arsphenamine was in 1912, but there now exist in this country the facilities and opportunities for a more accurate and rapid appraisal of penicillin than prevailed at any time for the arsenicals. The parallelism between the economic state of the nation and the incidence of syphilis, as evidenced by an increase in the disease during times of prosperity and a decline during times of depression, has been recognized for some time. The unrest that prevails throughout the world today seems to be reflected likewise in the unsettled and changing aspects of the treatment of syphilis. And it is with these thoughts in mind that the results of some of the treatment systems will be discussed.

The recent reports of the committee [1] appointed to appraise penicillin indicate that a minimum of 2,400,000 units of penicillin given intramuscularly at the rate of 40,000 units every three hours for seven and a half days resulted in serologic reversals to negative in seven months in 70 per cent of the patients treated who had had syphilis for less than two weeks and in 38 per cent of those who had the disease for more than eight weeks. The longer the duration of the early syphilis, the higher is the incidence of failures. Also, a committee recently

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1. The Treatment of Early Syphilis with Penicillin, Committee on Medical Research and the United States Public Health Service, J. A. M. A. **131**: 265-271 (May 25) 1946.

called attention [2] to the isolation of four different types of penicillin, known as G, X, F and K, and felt that fraction K might be the least efficient of the group because of the rapidity with which it is excreted. The suggestion was made that since May 1944 the increase in the rate of failures after treatment with penicillin in various clinics which used the same treatment system might be due to the presence of fraction K in excessive amounts in certain of the penicillin products administered. This suggestion is now under investigation, and whether there are more than four penicillins and whether or not they exert different therapeutic effects, or whether there are other factors that have influenced the results of treatment will no doubt be determined in time. While these studies are in progress, the persons who acquire acute syphilis must be treated.

About four years ago J. R. Heller Jr. of the United States Public Health Service started to establish rapid treatment centers in various parts of this country for patients who had venereal diseases. This was part of the civilian control program. U. J. Wile became the medical director of the centers and has supervised the treatment of more than 150,000 patients with early syphilis in these sixty-two centers. The results of the various systems of treatment given to these patients are not as yet available, although the combination of five injections of oxophenarsine hydrochloride, 1,200,000 units of penicillin and three injections of a bismuth preparation given in a period of ten days has been the most satisfactory method they employed. The complications have been few and the failure rates satisfactory from this system in comparison with other programs which employ penicillin therapy alone.

In November 1943 we were led to believe from our experience in the treatment of patients with early syphilis that penicillin alone would not "cure" all of them; even in large doses of 6,000,000 to 8,000,000 units given over a period of ten days the rate of failure in all types of early syphilis approximated 40 per cent. We found that doses larger than 2,400,000 units did not increase the incidence of successful results proportionately.

Accordingly, more than two years ago we amplified our scheme of treatment for early syphilis by adding treatment with arsenoxide and a bismuth compound to the course of penicillin. The system consists in giving, as soon as the diagnosis of early syphilis can be made, four injections of arsenoxide (oxophenarsine hydrochloride) on four consecutive days in doses of 0.04 Gm. for each injection. On the fifth day, treatment with penicillin is started. It is given intramuscularly at the rate of 40,000 units every three hours for seven and one-half days for a total of 2,400,000 units. On the last day of the course of penicillin, treatment with bismuth subsalicylate in doses of 1½ grains (0.1 Gm.) is started. Ten injections are given at the rate of one every fifth day. The rationale for the program is that if larger doses and more injections of oxophenarsine hydrochloride are given in a short period, the incidence of complications, such as hemorrhagic encephalitis and dermatitis, is too high. Furthermore, the ten injections of bismuth subsalicylate given after the penicillin permit continued observation of the patient and add materially to the therapeutic effect. This program requires eleven and a half days of hospitalization and covers a treatment period of sixty-two days. We recognize that this system is not the ideal one from the economic and technical aspects, but the lack of failures, either clinical or serologic, and the absence of complications in a group of 34 patients in our opinion justify its continued use while the appraisal of penicillin progresses and new data accumulate that may warrant a modification of the plan.

It is possible that the good results we have obtained from the system just described are due to the fact that we do not believe it advisable to regiment the treatment of patients with early syphilis by endeavoring to give the same amount of treatment to all patients and by expecting cures to result for all of them. Accordingly, we have given a second course of treatment identical to the first one in cases in which the quantitative titer of the blood remained stationary six months after treatment or the titer showed a tendency to increase in strength three months or more after treatment. We accept the criticism that this procedure does not permit an accurate appraisal of penicillin alone, but these suggestions are for the physician who now needs a program for the treatment of early syphilis.

On comparison of the results of various rapid treatment systems that were being evaluated when penicillin was recommended, the results favor penicillin only in the fewer number of reactions it produces. The intensive measures for giving oxophenarsine hydrochloride, such as the five day drip or the multiple injection technic with syringe employed at the Chicago Intensive Treatment Center, have a lower rate of failure but a higher incidence of mild and serious complications, which minimize the practicability of the methods. The various other methods of administering arsenic compounds in a rapid manner all have complications, including death, which make the systems inadvisable for general use. The one day fever method as employed at the Chicago Intensive Treatment Center had a failure rate in early syphilis which is essentially the same as that obtained from 1,200,000 units of penicillin given alone. Accordingly, the low incidence of complications and the moderately satisfactory results from penicillin have increased its favor with syphilotherapeutists and in turn have resulted in a decrease of interest in the rapid methods of giving arsenic. Penicillin alone, even in large doses, does not appear effective enough in the treatment of early syphilis to use it without fortification, and at the moment the addition of treatment with oxophenarsine hydrochloride and bismuth subsalicylate to the course of penicillin is productive of the most satisfactory results.

The value of penicillin by mouth and the daily injection of 300,000 units of penicillin in beeswax and peanut oil (Romansky and Rittman [3]) are still under investigation. The experience to date with the beeswax and oil preparation suggests that it may eventually simplify the technical and economic features of penicillin therapy by making necessary only one injection a day, for several weeks, instead of one every two or three hours, for ten or more days. By so doing it will obviate the need for hospitalization. Within the year more definite information should be available as to the value of penicillin in this or some other vehicle in the treatment of the various manifestations of syphilis.

Penicillin is by far the outstanding remedy for the treatment of late cutaneous and osseous syphilis. The infiltrated and ulcerated lesions of the skin melt out

2. The Changing Character of Commercial Penicillin, with Suggestions as to the Use of Penicillin in Syphilis,-Committee on Medical Research, the United States Public Health Service and the Food and Drug Administration, J. A. M. A. **131:** 271-275 (May 25) 1946.

3. Romansky, M. J., and Rittman, G. E.: Penicillin Blood Levels for Twenty-Four Hours Following a Single Intramuscular Injection of Calcium Penicillin in Beeswax and Peanut Oil, New England J. Med. **233:** 577-582 (Nov. 15) 1945.

rapidly after administration of 2,400,000 units of penicillin, and there is no objection to giving a second course of a like amount four months later. Although the serologic tests of the blood tend to remain positive after two such courses, as yet, after almost three years of observation, there have been no recurrences of these late cutaneous lesions in any of our cases. The osseous diseases, such as periostitis and osteitis, do equally well. In fact the results in such cases are especially rapid and complete because penicillin exerts two beneficial effects: (1) on the syphilitic process and (2) on the secondary invading organisms that are frequently present in these ulcerated lesions. This twofold action is remarkable in gummatous ulceration of the nasal septum and hard palate; in many of these cases in the past the arsenic-bismuth combination therapy failed to control the destructive process because growth of the invading anaerobic and microaerophilic streptococci was not inhibited by chemotherapy.

The results from penicillin therapy on the visceral forms of the disease, such as gummatous hepatitis and gastric syphilis, are likewise good. It has seemed advisable to use smaller amounts of penicillin over a longer period in the presence of gumma of the liver to avoid a therapeutic paradox. Accordingly, 10,000 units every three hours for two weeks followed by a rest of three months and repetition of the course three or four times if necessary are recommended. It was not expected that penicillin would be of value in the advanced types of hepatic cirrhosis; however, in the cases in which gumma of the liver predominates, the results are highly favorable, although the incidence of esophageal varicosities in these patients is, of course, not decreased. The infiltrative lesions of gastric syphilis likewise involute more rapidly, perhaps more so than they do with routine chemotherapy, and if hepatic disease is not present in the same patient, the usual dosage of 2,400,000 units in seven and a half days can be given.

Cardiovascular disease of syphilitic origin, such as aortitis with or without aortic regurgitation and aneurysm of the aorta, has shown no benefit from penicillin therapy as yet. The evaluation of the treatment of this manifestation of syphilis with penicillin is a long term project which because of the nature of these complications holds but little promise. The continued use of arsenoxide (oxophenarsine hydrochloride) in small doses and bismuth subsalicylate over a period of several years with restricted physical activity still seems to be the treatment of choice. In the advanced cases the treatment of cardiac failure, as from other causes, is indicated. It will be most interesting to determine in twelve years or more from now the incidence of syphilitic cardiovascular disease among the patients who today are receiving penicillin for acute syphilis.

It does not appear at this writing that the problem of latent syphilis, or, as it is sometimes erroneously called, "Wassermann-fastness," will be solved by penicillin. In the patient who acquired syphilis twenty years or more ago and who received treatment at that time, whose spinal fluid is negative and who does not manifest evidence of cardiovascular, neurologic or other signs of syphilis but in whom the serologic tests of the blood remain positive, penicillin has not been of help in reversing the serologic tests to negative. It would appear advisable to give a course of at least 6,000,000 units in ten to fourteen days in cases of latent syphilis, if penicillin must be employed. It is possible that some combination employing penicillin with other agents may appear later that will change the serologic reactions of these patients more rapidly, but at the moment the intramuscular use of a bismuth compound in courses of twenty injections twice a year for approximately three years seems to be desirable for the majority of these patients. Before, during, and for some years after the bismuth course it is necessary to make certain that cardiovascular syphilis is not in the making.

Among patients who have had syphilis for four or five years and who received an inadequate amount of treatment at the time of the primary infection, the use of arsenoxide, penicillin and a bismuth preparation has not been rewarded with serologic reversals with any degree of regularity. The fact that the earlier in the course of the acute disease the treatment with penicillin is started, the better are the results may explain why serologic reversals to negative do not occur in cases of latency. In any event, treatment of latent syphilis with penicillin has not reversed the persistently positive serologic reactions to negative often enough to warrant its use in these cases.

Some controversy [4] exists in regard to the value of penicillin in the treatment of the patient with neurosyphilis. This is because of the known difficulty of interpreting the subjective complaints of the patient, the fact that the objective neurologic observations are irreversible and because certain of the reactions of the spinal fluid are slow to respond to treatment.

Nevertheless, penicillin has merit in the treatment of patients with certain types of neurosyphilis, and future studies will determine the therapeutic index of penicillin as compared with other specific and nonspecific methods of treatment. Much of the value of penicillin lies in its rapidity of administration and in its nontoxicity rather than to a definitely superior therapeutic effect. The incidence of positive spinal fluid observations in patients with early syphilis treated with penicillin alone now approximates 2 per cent, which is a decidedly lower percentage than that observed after arsenobismuth therapy.

When penicillin is given to the neurosyphilitic patient, at least 4,000,000 units should be given in each course. Such courses may be repeated at intervals of three to six months depending on the activity of the cerebrospinal fluid and the clinical status of the patient. Certain of our patients have received as much as 16 million units of penicillin. Penicillin in no way interferes with a course of malarial therapy, if it is decided that both should be given concurrently.

Penicillin is of particular value in reducing the intensity of the reactions in the cerebrospinal fluid, especially those observed in the presence of meningeal reactions and a high lymphocyte count. After treatment with penicillin alone the cell count is the first to approach or become normal, while the other reactions decrease in the following order of rapidity: protein values, colloidal gold curve and the complement fixation reactions. While the cell count and concentration of protein may rapidly become normal, the complement fixation reactions and the colloidal gold curve tend to remain abnormal for some time. Few of our neurosyphilitic patients have achieved a completely normal spinal fluid after the use of penicillin alone.

4. Rose, A. S.; Trevett, L. D.; Hindle, J. A.; Prout, C., and Solomon, H. C.: Penicillin Treatment of Neurosyphilis: A Preliminary Report of Seventy Cases Followed from Four to Twelve Months, Am. J. Syph., Gonor. & Ven. Dis. **29**: 487-493 (Sept.) 1945. Gammon, G. D.; Stokes, J. H.; Beerman, H.; Ingraham, N. R., Jr.; Lentz, J. W.; Morgan, H. G.; Steele, W.; Rose, E. K., and Mayer, V.: Penicillin in Neurosyphilis: Effect on Blood and Spinal Fluid, J. A. M. A. **128**: 653-654 (June 30) 1945.

In a few patients who had received much treatment with arsenic and bismuth prior to the administration of penicillin, the reactions of the spinal fluid returned to normal or near normal when penicillin was given. On the whole, however, the patients who were serologically resistant to chemotherapy were likewise resistant to penicillin therapy. The patients who might be expected to do well on arsenic-bismuth treatment, namely, those with high cell count, likewise do well when given penicillin as the only therapeutic agent.

Such is the case in meningeal neurosyphilis. Patients with this disease who were treated with penicillin achieved excellent clinical results within a short time, and the reactions of the spinal fluid reversed quickly to within normal limits.

In patients with asymptomatic neurosyphilis the reactions of the cerebrospinal fluid tended to reverse to normal, but in a less pronounced manner than in patients who had meningeal neurosyphilis. Three patients with asymptomatic neurosyphilis had accentuation of the serologic reactions of both the spinal fluid and the blood four months after penicillin therapy. This might be due to a Herxheimer-like reaction or a provocative effect. The majority of patients [5] with asymptomatic neurosyphilis treated with penicillin alone achieved a normal cell count and protein value in the cerebrospinal fluid, although the gold curve and complement fixation reactions remained positive. When penicillin was given concurrently with malarial therapy there was a more rapid response in the reactions of the spinal fluid than that which occurred when penicillin was the sole method of treatment. Penicillin was administered intravenously in conjunction with spinal drainages to some patients. More rapid results were obtained than when the penicillin alone was given intramuscularly.

Although the patients with asymptomatic neurosyphilis had no subjective complaints and the objective neurologic examination was normal, after penicillin therapy the majority of them spoke of an increased sense of well-being and usually gained between 10 and 20 pounds (4.5 and 9.1 Kg.).

Among patients with the parenchymatous forms of neurosyphilis, such as tabes dorsalis, taboparesis and dementia paralytica, the response in the reactions of the spinal fluid were less decided than among patients with the less severe types of the disease. Also, in this group it was observed that the concurrent administration of penicillin during a course of malarial therapy achieved better serologic reverses than did the unfortified penicillin.

The clinical response in cases of dementia paralytica mirrored the results observed in the spinal fluid when penicillin and malarial therapy were combined. More clinical remissions were obtained in paretic patients who received combined penicillin-fever treatment than when penicillin was given alone. In fact we have not observed a frank clinical remission in a paretic patient after the administration of penicillin alone, although such remissions have been observed by others. Penicillin when given alone reduced the frequency and intensity of the lightning pains of the majority of patients with tabes dorsalis, but the other manifestations, such as gastric crises, ataxia and incontinence, were abated but little.

It is too early to pass judgment on the value of penicillin in the treatment of patients with optic atrophy; however, at this time the combined use of penicillin and malaria therapy offers more encouragement in arresting the progressive loss of vision than any system of treatment previously used for such patients.

Two patients with syphilitic amyotrophy have exhibited steady progression of their signs and symptoms in spite of receiving 12,000,000 and 16,000,000 units of penicillin, respectively.

While the comparative therapeutic index of penicillin in neurosyphilis is not known definitely today, it seems probable that future studies will show that it is superior to the older routine chemotherapy but inferior to combined fever therapy and chemotherapy. Malarial therapy combined with the administration of penicillin or malarial therapy followed by one or more courses of penicillin gives results superior to those obtained from penicillin alone.

The results from the use of penicillin in preventing congenital syphilis far surpass any previously described treatment scheme. Ingraham and his co-workers [6] and Goodwin and Moore [7] reported excellent results in the prevention of congenital syphilis by the treatment of pregnant syphilitic women with penicillin. Wile observed that only 1 out of 100 pregnant women who were thus treated gave birth to a syphilitic child. The administration of 2,400,000 units in seven and a half days in the third month and again in the seventh month of pregnancy seems most efficient. The complication rate in these cases is essentially nil.

Penicillin is more effective in the prevention of congenital syphilis than it is in its treatment. The results in the treatment of the newborn syphilitic have not been as highly successful as it was hoped that they would be, and interstitial keratitis has been resistant to penicillin therapy. We have observed rapid and complete serologic reversal in the spinal fluid in congenital asymptomatic neurosyphilis after combined malaria-penicillin therapy when extensive chemotherapy had failed. We have not had the opportunity to treat patients with congenital symptomatic neurosyphilis with penicillin. The benign manifestations of congenital syphilis, such as cutaneous gumma and periostitis, respond rapidly to penicillin.

SUMMARY

The evaluation of penicillin in the treatment of patients with syphilis is still going on and must continue for several years more before concrete deductions may be made as to its actual value. Penicillin has the following advantages: it produces few reactions and it can be given in a short period of time. The need for hospitalization for a week or ten days and injections given at two or three hour intervals are its disadvantages. It may be that penicillin in beeswax and peanut oil will overcome these objections.

In the treatment of early syphilis the results from penicillin are inferior to those from five day drip or multiple daily injections with syringe of arsenoxide (oxophenarsine hydrochloride). However, the complication rates from these procedures are so high and serious that they prevent their general use. Penicillin in combination with oxophenarsine hydrochloride and a bismuth preparation given either before or after or concurrently offers at this time the highest rate of successes from treatment in patients with early syphilis.

5. Stokes, J. H., and Steiger, H. P.: Penicillin Alone in Neurosyphilis, J. A. M. A. **121:** 1-7 (May 4) 1946.

6. Ingraham, N. R., Jr.; Stokes, J. H.; Beerman, H.; Lentz, J. W., and Wammock, V. S.: Penicillin Treatment of the Syphilitic Pregnant Woman, J. A. M. A. **130:** 683-688 (March 16) 1946.

7. Goodwin, M. S., and Moore, J. E.: Penicillin in the Prevention of Prenatal Syphilis, J. A. M. A. **130:** 688-694 (March 16) 1946.

The shorter the duration of the syphilis the better are the results from treatment employing penicillin alone or amplified by chemotherapy.

In late cutaneous, osseous and gastric syphilis and in early hepatic syphilis the results from penicillin therapy are excellent, while in late latent and cardiovascular disease sufficient experience has not yet been accumulated to warrant an opinion as to its eventual value. In neurosyphilis the meningeal types of the disease respond well, while the parenchymatous forms are more resistant to penicillin. After penicillin therapy the serologic reversals have been more satisfactory thus far than the clinical improvements. Penicillin and malarial therapy produce more serologic and clinical improvement than fever therapy alone or penicillin alone. Results from the treatment of neurosyphilis with penicillin are still unpredictable and somewhat erratic.

The single outstanding value of penicillin is observed in the treatment of pregnant syphilitic women. Penicillin therapy seldom fails to prevent the development of syphilis in the offspring. In congenital syphilis the results from treatment with penicillin are as yet somewhat variable, and there is need for the treatment and observation of more patients before an estimation of its value is made.

Although the exact status of penicillin therapy in syphilis is not known today, it is apparent that penicillin has definite therapeutic merit, that it produces few reactions, that it can be given in short courses with minimal technical difficulties and that the cost of treatment eventually will be less than that of chemotherapy.

HEMOPHILUS INFLUENZAE MENINGITIS TREATED WITH STREPTOMYCIN

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Demonstration by Waksman [1] and others [2] of the antibacterial action of streptomycin on a number of gram-negative organisms suggested that type b Hemophilus influenzae, a frequent cause of meningitis in children, might be sensitive to this antibiotic. Therapeutic trial was made only after laboratory investigations [3] revealed a pronounced degree of sensitivity on the part of this organism to streptomycin both in vitro and in vivo. A simple in vitro test for measuring the sensitivity of a given strain of the organism showed a high degree of correlation with the minimal effective dose of streptomycin necessary to protect mice against lethal infection with the same strain. One dose of a suitable quantity of streptomycin proved superior to type specific rabbit antibody used in conjunction with sulfadiazine in protecting mice against lethal infections caused by type b H. influenzae.[4] These results seemed to warrant a therapeutic trial with streptomycin even though rabbit antibody along with sulfadiazine has proved so successful in the treatment of influenzal meningitis; of 90 patients treated by the latter method, 80 per cent recovered.[5] If streptomycin alone proves to be equally effective, it would seem to offer certain advantages; at least it could be expected to decrease the present mortality rate if used in conjunction with other effective agents.

SCHEDULE OF DOSAGE AND ROUTE OF ADMINISTRATION

Unless otherwise indicated, in the cases reported in this paper the patients were treated only with streptomycin [6] after admission to the Babies Hospital. Treatment given prior to admission is tabulated for each case in tables 1, 2, 3 and 4. All patients received, intramuscularly, approximately 20,000 units per pound (0.5 Kg.) of body weight in each twenty-four hour period. This was given either by the continuous intramuscular drip method, diluted in 240 cc. of isotonic solution of sodium chloride, or by interrupted intramuscular injections every three hours in a concentration of 50,000 or less units per cubic centimeter. The drug was also administered intrathecally to all patients; injections were usually given once a day, and their total number varied depending on the response of the patient. The dose of streptomycin given at each injection was between 25,000 and 50,000 units, depending on the severity of infection.

CONCENTRATIONS OF STREPTOMYCIN IN SERUM AND SPINAL FLUID OF PATIENTS

To determine the concentration of streptomycin in serums and spinal fluids a broth dilution assay method with Klebsiella pneumoniae as the test organism was used. All samples were heated at 60 C. (140 F.) for ten minutes before assay.[7]

Chart 1 represents the hourly levels of streptomycin in the serum from the first through the sixth hours after the administration of a single dose of 2,500 units per pound (0.5 Kg.) of body weight. In charts 2 and 3 are shown the composite assay observations for patients receiving streptomycin via the intramuscular route by the continuous drip method and by separate doses given every three hours respectively. In chart 4 are shown levels of the drug attained in the serum and spinal fluid of a patient (case 12) who did not recover from the infection until other treatment was given, and in whom the infecting organism became resistant to streptomycin. Table 5 lists for 11 of the 12 patients studied the variation in concentration of streptomycin in the blood and in spinal fluid and, for comparison, the minimal effective concentration of the strain isolated.

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From the Babies Hospital and the Department of Pediatrics, Columbia University College of Physicians and Surgeons (Alexander and Leidy) and from the Squibb Institute for Medical Research (Rake and Donovick).

1. Waksman, S. A.: Production and Activity of Streptomycin, J. Bact. **46:** 299 (April 24) 1943. Waksman, S. A.; Bugie, E., and Schatz, A.: Isolation of Antibiotic Substances from Soil Micro-Organisms, with Special Reference to Streptomycin and Streptothrycin, Proc. Staff Meet., Mayo Clin. **19:** 537 (Nov. 15) 1944. Jones, D.; Metzger, H. J.; Schatz, A., and Waksman, S. A.: Control of Gram-Negative Bacteria in Experimental Animals by Streptomycin, Science **100:** 103 (Aug. 4) 1944. Schatz, A.; Bugie, E., and Waksman, S. A.: Streptomycin, a Substance Exhibiting Antibiotic Activity Against Gram-Positive and Gram-Negative Bacteria, Proc. Soc. Exper. Biol. & Med. **55:** 66 (Jan.) 1944.

2. Robinson, H. J.; Graessle, O. E., and Smith, D. G.: Studies in the Toxicity and Activity of Streptothricin, Science **99:** 540 (June 30) 1944; Chemotherapeutic Properties of Streptomycin, Proc. Soc. Exper. Biol. & Med. **57:** 226 (Nov.) 1944. Heilman, F. R.: Streptomycin in the Treatment of Experimental Tularemia, Proc. Staff Meet., Mayo Clin. **19:** 553 (Nov. 29) 1944; Streptomycin in the Treatment of Experimental Infections with Micro-Organism of the Friedlander Group (Klebsiella), ibid. **20:** 33 (Feb. 7) 1945.

3. Alexander, H. E., and Leidy, G.: Influence of Streptomycin on Type b H. Influenzae, Science **104:** 101 (Aug. 2) 1946.

4. Alexander, H. E.: Experimental Basis for Treatment of Haemophilus Influenzae Infections, Am. J. Dis. Child. **66:** 160 (Aug.) 1943.

5. Alexander, H. E.: Treatment of Type b Haemophilus Influenzae Meningitis, J. Pediat. **25:** 517 (Dec.) 1944.

6. The streptomycin used in this study was supplied by E. R. Squibb & Sons. One unit is equivalent to 1 microgram of pure streptomycin base.

7. Donovick, R.; Hamre, D.; Kavanagh, F., and Rake, G.: A Broth Dilution Method of Assaying Streptothricin and Streptomycin, J. Bact. **50:** 623 (Dec.) 1945.

TOXICITY OF STREPTOMYCIN

In the urine of some patients under treatment with streptomycin an increase of albumin, red cells and epithelial cells was sometimes found. These increases were small in amount and often were not detectable by routine laboratory examination. Moreover, none persisted after withdrawal of the drug, and all evidence of permanent damage to the kidney is lacking. There is also an indication that the phenomena may have been the result of impurities in the preparation rather than of the streptomycin itself, since they have not been observed in more recently studied cases in which the patients were treated with purer preparations of streptomycin.

Another manifestation of toxicity also was apparently due to concomitant impurities. After the use of early preparations 2 infants, each 1 year old, who were improving by all standards, became comatose shortly after receiving the second intrathecal injection of 50,000 units. After the temporary withdrawal of streptomycin, they improved greatly within twelve hours. One made an uneventful recovery and the other, who died several days after cultures of spinal fluid had become sterile, showed a large subarachnoid abscess at necropsy. Later preparations of streptomycin in the same quantity, or in another series of infections in even larger quantity, failed to produce these reactions.

In 1 patient, subsequent to the completion of therapy, there was damage to the eighth cranial nerve which resulted in deafness. This manifestation of toxicity has been described by Hinshaw and Feldman.[8]

Examination of the blood failed to reveal any influence of streptomycin on the hemopoietic system.

RESULTS OF TREATMENT

Twenty-five patients have been treated with streptomycin. Of the 25, 12 whose infections were mild or moderately severe when judged by clinical manifestations and the concentration of sugar in the original spinal fluid recovered promptly and completely after treatment with streptomycin alone. The significant data on this group are listed in table 1. The duration of infection prior to the institution of streptomycin therapy was less than eight days in all cases. All patients had received sulfadiazine with or without penicillin prior to admission.

In table 2 are listed the data and results of treatment for 5 patients with severe infections. Four had had meningitis for two weeks or more and had been treated in other institutions by the agents listed. Physical signs of chronic meningitis were present, and the concentrations of sugar in the spinal fluid were below 15 mg. per hundred cubic centimeters. The prognosis for complete recovery would be considered poor under any known treatment regimen. The disease of the fifth patient (case 12) in this group ran a fulminating course, since he was reported to have been up and well twenty-four hours prior to the institution of streptomycin therapy; however, on admission he was in a semicomatose state and the level of sugar in his spinal fluid was only 6 mg. per hundred cubic centimeters. In our experience, such a patient could be expected to recover promptly under treatment with rabbit antiserum and sulfadiazine in adequate quantities. All 5 patients received streptomycin therapy alone initially. In 3 the unsatisfactory response led to the addition of type specific antiserum after four days of streptomycin treatment. In only 1 of these, case 12, was H. influenzae cultivated from the spinal fluid at the time antiserum was added, but in the other 4 the worsening of the clinical condition and persistence of a low con-

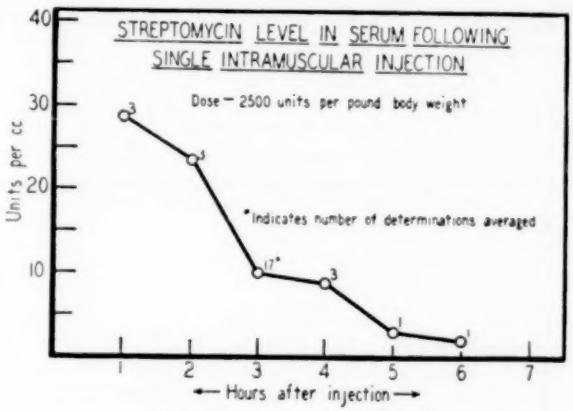

Chart 1.—Hourly levels of streptomycin in the serum.

TABLE 1.—*Treatment with Streptomycin Alone in Mild Cases of Meningitis Due to Hemophilus Influenzae*

Case	Age, Yr. Mo.	Duration of Disease, Days	Duration of Previous Therapy	First Spinal Fluid Sugar, Mg./100 Cc.	Spinal Fluid Sterile, Days	Streptomycin: Intramuscular, Days	Streptomycin: Intrathecal, Units in 1,000's	Result
17	0 5	7	Sulfadiazine, 4 days	66	*	5	50 × 5†	Recovered
4	0 9	6	Sulfadiazine, 1 day Penicillin, 1 day	47	1	6	25 × 5	Recovered
2	0 11	7	Sulfadiazine, 5 days Penicillin, 2 days	49	1	12	25 × 3	Recovered
1	1 2	2	Sulfadiazine, 2 days	65	1	9	50 × 3	Recovered
6	1 8	2	Sulfadiazine, 2 days	38	1	5	25 ×4	Recovered
16	1 9	2	Sulfadiazine, 1 day	23	1	5	50 × 5	Recovered
22	1 11	1	Sulfadiazine, 1 day	40	1	7	50 × 3	Recovered
21‡	2 0	2	Sulfadiazine, 2 days	49	2	19	50 × 4	Recovered
3	2 5	1	Sulfadiazine, 1 day Penicillin, 1 day	30	2	8	25 ×3	Recovered
8	2 6	6	Sulfadiazine, 4 days Penicillin, 5 days	30	2	5	25 × 4	Recovered
7	2 9	2	Sulfadiazine, 2 days Penicillin, 2 days	36	1	5	25 × 5	Recovered
19	3 7	2	Sulfadiazine, 1 day	34	1	4	50 × 4	Recovered

* Spinal fluid was sterile, but pus from subarachnoid pocket grew type f H. influenzae on one occasion after two days of streptomycin treatment.
† Number of injections given.
‡ Patient had purulent arthritis in addition to meningitis.

8. Hinshaw, H. C., and Feldman, W. H.: Streptomycin in Treatment of Clinical Tuberculosis: A Preliminary Report, Proc. Staff Meet., Mayo Clin. **20**: 313 (Sept. 5) 1945.

centration in the spinal fluid of sugar demanded the use of additional therapy. In case 12, in which infection was early, H. influenzae was grown from all specimens of spinal fluid withdrawn during streptomycin administration. The patient's course will be discussed in more detail elsewhere.[9] The organism cultivated from the spinal fluid twenty-four hours after the initiation of treatment with this antibiotic was found to be completely resistant. After the addition of antiserum and sulfadiazine, recovery was prompt and complete. The other 2 patients, cases 10 and 18, who received antiserum and sulfadiazine after four days of streptomycin therapy, disclose evidence of serious cerebral damage.

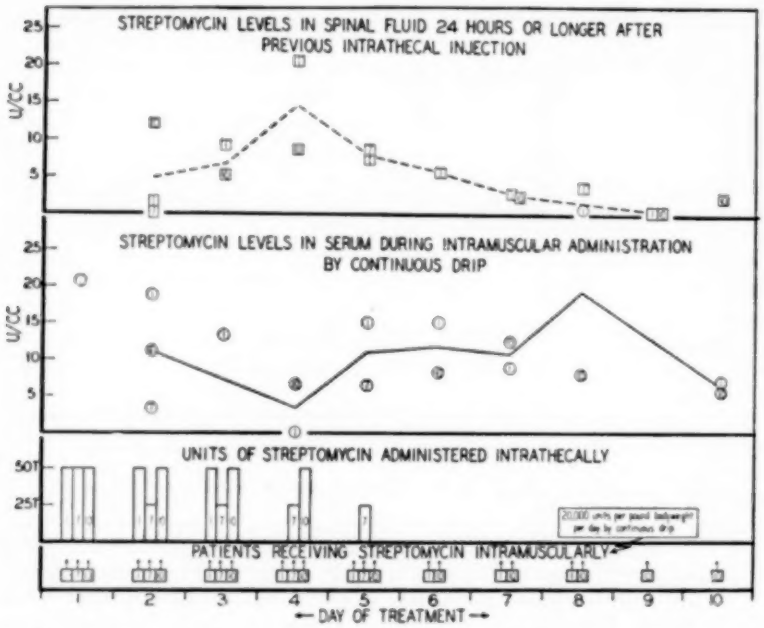
STREPTOMYCIN LEVELS IN SPINAL FLUID 24 HOURS OR LONGER AFTER PREVIOUS INTRATHECAL INJECTION
U/CC
STREPTOMYCIN LEVELS IN SERUM DURING INTRAMUSCULAR ADMINISTRATION BY CONTINUOUS DRIP
U/CC
UNITS OF STREPTOMYCIN ADMINISTERED INTRATHECALLY
PATIENTS RECEIVING STREPTOMYCIN INTRAMUSCULARLY
DAY OF TREATMENT

Chart 2.—Continuous drip administration; levels of streptomycin in blood and spinal fluid of patients receiving 20,000 units of the drug per pound (0.5 Kg.) of body weight per day. Numbers in graph identify the patient from whom the specimen was taken. Curves represent the average concentration of streptomycin.

The 2 patients, cases 9 and 11 on table 2, who were treated with streptomycin without additional therapy succumbed to the infection. In 1 the infection continued because the organisms which persisted were resistant to streptomycin. The other patient appeared to be improving by clinical standards; the spinal fluid became sterile and its chemical constituents normal. At necropsy a large subarachnoid abscess containing H. influenzae was found.

Table 3 lists the data and results of treatment of 4 patients who received streptomycin after unsuccessful therapy with antiserum and sulfadiazine; 3 received these agents in quantities adequate for the maintenance of an antibody excess, but in 1 patient antibody therapy was clearly inadequate. In 1 patient (case 15) streptomycin was responsible for the prompt elimination of an infection which had persisted after four weeks of what should have been, according to history, adequate treatment with antiserum and sulfadiazine. Moreover, his serum on admission to Babies Hospital showed what we have regarded as a satisfactory antibody excess. The child had a fever and displayed signs of meningeal irritation and poor nutrition but was entirely clear mentally, and there were no localizing neurologic signs. The concentration of sugar in the spinal fluid was 15 mg. per hundred cubic centimeters. We have been able to cure such patients by the administration intrathecally of antiserum and heparin with and without the injection of air, but this patient had become decidedly sensitive to the rabbit antiserum. Streptomycin rapidly terminated the infection and proved to be the optimal form of treatment for this patient. Moreover, this antibiotic promises to eliminate the need for the drastic treatment recommended previously [5] for the occasional severe chronic case of meningitis which improves but is not cured by antiserum and sulfadiazine. H. influenzae was isolated from spinal fluid in 3 of the 4 cases when streptomycin therapy was started; in the fourth patient, who received both forms of therapy at another institution, the culture was sterile but the determination of sugar in the spinal fluid had not exceeded 26 mg. per hundred cubic centimeters. After streptomycin therapy the spinal fluids became sterile in all cases within forty-eight hours despite the fact that in the 1 fatal case of this group necropsy disclosed an enormous subarachnoid or subdural abscess which compressed the cerebral hemisphere to one fourth its original size.

Table 4 supplies the important details on the 4 patients whose infections were so severe that all three agents, type specific rabbit antiserum, sulfadiazine and streptomycin, were administered initially. All these patients appear to have recovered completely. In 2 infants, aged 6 months and 2½ months respectively, a longer observation period is required for evaluation of their mental development.

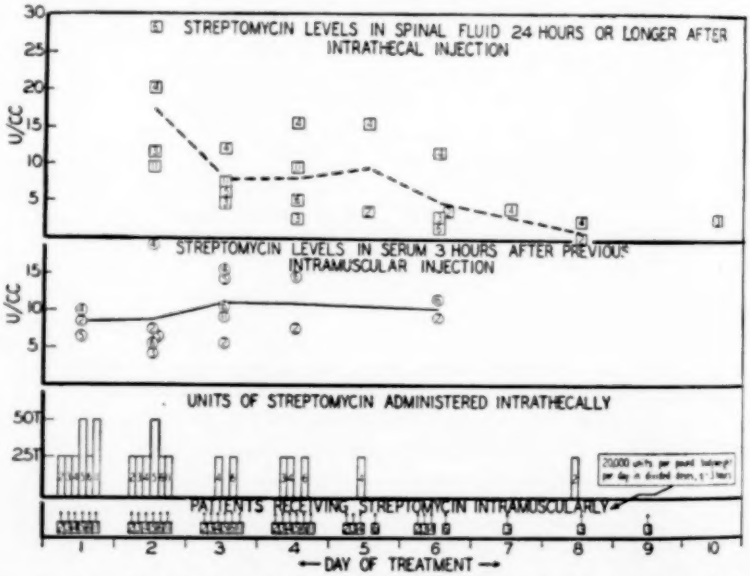
STREPTOMYCIN LEVELS IN SPINAL FLUID 24 HOURS OR LONGER AFTER INTRATHECAL INJECTION
U/CC
STREPTOMYCIN LEVELS IN SERUM 3 HOURS AFTER PREVIOUS INTRAMUSCULAR INJECTION
U/CC
UNITS OF STREPTOMYCIN ADMINISTERED INTRATHECALLY
PATIENTS RECEIVING STREPTOMYCIN INTRAMUSCULARLY
DAY OF TREATMENT

Chart 3.—Divided doses administered every three hours; levels of streptomycin in the blood and spinal fluid of patients receiving 20,000 units of the drug per pound (0.5 Kg.) of body weight per day. Numbers in the graph identify the patient from whom the specimen was taken. Curves represent average concentration of streptomycin.

9. Alexander, H. E., and Leidy, G.: Emergence of Resistance of Type b H. Influenzae in Spinal Fluid of a Patient During the First Twenty-Four Hours of Streptomycin Treatment and Its Relation to the Mechanism of Resistance, to be published.

RESPONSE OF PATIENTS WHO RECOVERED

On the whole, clinical improvement was less rapid than that seen after antiserum therapy. On the other hand, the changes in the spinal fluid which indicate a clearance of infection appeared just as promptly as those seen following antiserum therapy. In 9 of the 12 patients who recovered the spinal fluid on culture proved sterile twenty-four hours after the initiation of streptomycin therapy and in the other 3, after forty-eight hours. The return to normal of the chemical constituents of the spinal fluid was equally rapid. There was no indication that streptomycin in the dosage used produced significant inflammation of the meninges.

One patient (case 12) has provided our only opportunity to date to test the therapeutic effect of this antibiotic alone early in the course of a severe infection. The concentration of streptomycin attained in spinal fluid and blood is shown in chart 4. Chart 5 presents the clinical course of this 2 year old child. Within twelve hours after streptomycin therapy began, stained smears of the spinal fluid exhibited a decisive change; it was difficult to find convincing organisms. There was a slight increase in sugar, and the patient showed some improvement in his orientation; the temperature had decreased. Twelve hours later the level of sugar in the spinal fluid was normal. These signs of improvement were considered adequate indication for withholding further intrathecal streptomycin. Our experimental and clinical results suggested that one intrathecal injection might be sufficient. On the morning of the third hospital day, or thirty-six hours after the start of treatment, it was not possible to find convincing organisms on stained smears of sediment of spinal fluid. The sugar concentration was still normal, and culture of the spinal fluid made at twelve hours following streptomycin therapy was sterile, while that made at twenty-four hours had not grown out. The organisms isolated from the patient's spinal fluid before the use of streptomycin were found to be within the average range of sensitivity. These observations seemed at the time to warrant withholding additional streptomycin by the intrathecal route, although the decision

TABLE 2.—*Therapeutic Failures on Streptomycin Alone*

Case	Age Yr.	Age Mo.	Duration of Disease, Days	Duration of Previous Therapy	First Spinal Fluid Sugar, Mg./100 Cc.	Spinal Fluid Sterile, Days	Streptomycin: Intramuscular, Days	Streptomycin: Intrathecal Units in 1,000's	Additional Therapy	Result
9	0	2	21	Sulfadiazine, 21 days Penicillin, 21 days	5	6*	19	30 × 11†	None	Died
18	0	5	14	Sulfadiazine, 9 days Penicillin, 1 day	11	1	9	50 × 5 25 × 4	Rabbit antiserum and sulfadiazine 4‡	Lived
10	1	0	14	Sulfadiazine, 8 days	5	3	12	50 × 4 25 × 1	Rabbit antiserum and sulfadiazine 4‡	Lived
11	1	1	14	Sulfadiazine, 1 day Penicillin, 1 day	14	4	4	50 × 1 25 × 1	None	Died
12	2	4	1	None	13	6	4	25 × 3 50 × 1	Rabbit antiserum and sulfadiazine 4‡	Recovered

* Cerebrospinal fluid remained sterile only 1 day.
† Number of injections given.
‡ Day of streptomycin therapy on which other therapy started.

TABLE 3.—*Streptomycin Therapy After Failure of Antiserum and Sulfadiazine*

Case	Age, Yr. Mo.	Duration of Disease, Days	Duration of Previous Therapy	First Spinal Fluid Sugar, Mg./100 Cc.	Spinal Fluid Sterile, Days	Streptomycin: Intramuscular, Days	Streptomycin: Intrathecal, Units in 1,000's	Result
14	1 0	14	Rabbit antiserum, 10 days Sulfadiazine, 2 days	5	1	4	50 × 6*	Died
13	1 8	25	Rabbit antiserum, 7 days Sulfadiazine, 20 days Streptomycin, 13 days Penicillin, 1 day	18	13†	12	25 × 3 50 × 1	Living
5	2 0	30	Sulfadiazine, 40 days Rabbit antiserum, 28 days‡	22	2	5	50 × 2	Recovered
15	5 0	33	Rabbit antiserum, 28 days Sulfadiazine, 28 days	15	1	5	50 × 5	Recovered

* Number of injections given.
† Spinal fluid sterile when streptomycin started.
‡ Serum treatment inadequate.

TABLE 4.—*Results of Treatment with Streptomycin, Antiserum and Sulfadiazine*

Case	Age, Yr. Mo.	Duration of Disease, Days	Duration of Previous Therapy	First Spinal Fluid Sugar, Mg./100 Cc.	Spinal Fluid Sterile, Days	Streptomycin: Intramuscular, Days	Streptomycin: Intrathecal, Units in 1,000's	Result
24	0 2½	3	Sulfadiazine, 3 days	5	1	9	25 × 5*	Recovered
25	0 6	1	Sulfadiazine, 1 day Penicillin, 1 day	9	1	5	50 × 2 25 × 2	Recovered
23	0 10	28	Sulfadiazine, 21 days	16	2	6	50 × 6	Recovered
20	1 6	1	Sulfadiazine, 1 day	7	1	7	50 × 4	Recovered

* Number of injections given

was a difficult one because the patient's temperature was still 104 F., and there had been no further clinical improvement. By the morning of the fourth day it was obvious that the intrathecal introduction of streptomycin must be resumed. The culture of spinal fluid made twenty-four hours after the start of streptomycin

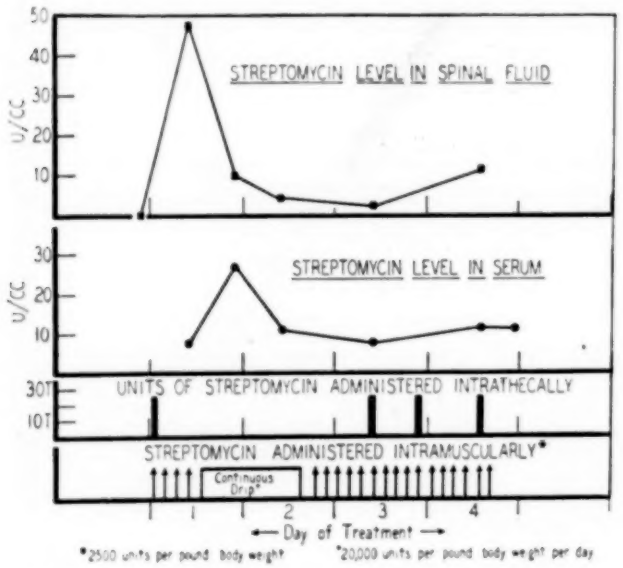
STREPTOMYCIN LEVEL IN SPINAL FLUID
U/CC
STREPTOMYCIN LEVEL IN SERUM
UNITS OF STREPTOMYCIN ADMINISTERED INTRATHECALLY
STREPTOMYCIN ADMINISTERED INTRAMUSCULARLY*
Continuous Drip*
Day of Treatment
*2500 units per pound body weight
*20,000 units per pound body weight per day

Chart 4 (case 12).—Streptomycin levels in spinal fluid and blood.

therapy, as well as cultures from spinal fluid drawn twelve and twenty-four hours later, revealed the growth of H. influenzae. Accordingly, it was decided to introduce at each twelve-hour interval 25,000 units of streptomycin into the lumbar subarachnoid space. After thirty-six hours of this regimen the patient was worse, convulsive movements appeared on the right side, the spinal fluid cultures grew rapidly, and the sugar concentration was decreased. Sensitivity tests on all cultures grown from spinal fluid after the start of streptomycin treatment, including the one isolated finally from spinal fluid after twenty-four hours of this therapy, showed them resistant to a concentration of more than 1,000 units per cubic centimeter. Streptomycin therapy was therefore discontinued, and treatment with rabbit serum and sulfadiazine was instituted. Forty-eight hours thereafter the spinal fluid was sterile and the temperature lower. The child's sensorium was clear, but he continued to exhibit convulsive movements of the right side for three days, after which hemiparesis was apparent. After the subsidence of fever and the return of spinal fluid to normal, improvement in muscle tone was rapid. Four weeks after the initiation of serum treatment, he was walking about in his bed and using his arms normally. Our observations suggest that a rather extensive injury of the left motor area developed about four days after the initiation of streptomycin therapy. The boy appears to be normal mentally, and there is every reason to believe from past experience that there will be no residual motor dysfunction. We have seen several examples of such injury to the motor area of the cortex in which the patients have recovered completely in less than one month. The course has led us to believe that injury to the cerebral vessels which results in interference with the blood supply of cells in the motor area is probably the cause of the lesions.

SENSITIVITY OF H. INFLUENZAE STRAINS

The influence of a number of variables was studied in an effort to standardize an in vitro test which might serve as an index of the sensitivity range of a representative number of H. influenzae strains and also as a guide to the therapeutic efficiency of streptomycin in an individual patient. Three principles were applied. The inoculum was large (3 to 1,700 million organisms), the medium was optimal (Levinthal [10] broth and agar) and the incubation period adopted for the test was forty-eight hours. Cultures of H. influenzae either in Levinthal broth or Levinthal agar after a six hour incubation period proved to be satisfactory sources of inoculum. A 2 mm. platinum loopful from either of these sources was seeded on each of a series of Levinthal agar plates which contained concentrations of streptomycin ranging from 0.5 to 10.8 units per cubic centimeter. After incubation for forty-eight hours the lowest concentration of streptomycin which completely prevented growth was defined as the minimal effective concentration of the strain. Fifty strains of type b H. influenzae with no previous history of exposure to streptomycin have been studied by this method; all were found to be completely inhibited by concentrations between 0.8 and 10.8 units per cubic centimeter. Only three of these strains resisted concentrations greater than 7.5 units per cubic centimeter. A few cultures of types a, c, d, e and f H. influenzae as well as several strains of nontypable H. influenzae have exhibited a comparable degree of sensitivity. Twenty-five of the type b strains were isolated from patients with influenzal meningitis prior to streptomycin treatment; their range of sensitivity fell between 0.8 and 7.5 units per cubic centimeter.

The strains isolated from 2 patients after the start of streptomycin treatment exhibited capacity to thrive in the presence of streptomycin in a concentration of 1000 units per cubic centimeter. All the sensitive strains which were studied could be made to exhibit increased resistance to streptomycin after a few subcultures in

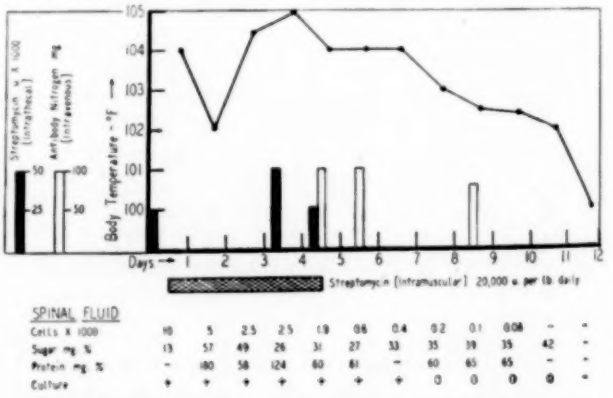

Chart 5 (case 12).—Clinical course of the patient.

mediums containing the antibiotic in subtlethal concentration. Most of them became for practical purposes completely resistant with passages once a day or on alternate days within a period of two weeks. Thus we were provided with a group of strains which were resistant to high concentrations of streptomycin according to in vitro tests. Mouse protection tests were

10. The Pittman modification of Levinthal medium was used. Pittman, M.: J. Exper. Med. **53**: 471 (April) 1931.

carried out to compare the in vivo sensitivity of the two groups, those displaying sensitivity in vitro and those exhibiting resistance in vitro. The smallest single dose of streptomycin per mouse which was sufficient to protect 50 per cent of the mice given 20 million organisms each was determined for both the sensitive and resistant strains. Table 6 shows for each culture tested the high degree of correlation between the minimal effective concentration in vitro and the minimal effective dose sufficient to protect mice against 20 million organisms (1 million × the minimum lethal dose).

Despite the agreement between the in vitro and in vivo tests neither method enabled us to select in advance the patients whose strains became resistant after the beginning of streptomycin therapy. Our therapeutic results suggest that it is the severity of infection and therefore the size of the bacterial population which

TABLE 5.—*Variation in Concentration of Streptomycin in Blood and Spinal Fluid Compared with Minimal Effective Concentration*

Case	Concentrations of Streptomycin, Units per Cc.		Dose and Route of Streptomycin, Units in 1,000's			M.E.C.‡ Units per Cc.
	Blood *	Spinal Fluid †	I.M.	Each 24 Hours	I.T.	
1	8.9-30.6	9.1-20.4	C. D.	20,000 §	50	2.7
2	5.1-10.1	....	q3h	20,000	25	2.6
3	4.2- 8.5	5.1-11.5	q3h	20,000	25	4.9
4	10.1-19.1	11.8-20.0	q3h	20,000	25	1.6
5	6.2-14.6	6.2- 6.0	q3h	20,000	50	2.8
6	5.5-14.5	5.0-28.0	q3h	20,000	25	2.8
7	3.3- 6.5	8.5	q3h	20,000	25	4.4
8	7.3-22.0	4.9-16.3	q3h	20,000	50	7.5
10	5.8-12.2	5.1-12.1	C. D.	20,000	50	2.5
11	9.3-10.5	9.3- 9.6	q3h	20,000	25	1.6
12	7.5- 9.8	11.1	q3h	20,000	25	4.4

Key: I.M., intramuscular; I.T., intrathecal; M.E.C., minimal effective concentration; C.D., continuous intramuscular drip; q3h, every three hours.

* Specimen collected at random when intramuscular dose was given by continuous intramuscular drip. When streptomycin was given every three hours the blood was withdrawn three hours after the last dose.

† Spinal fluid concentrations represent those found twenty-four hours after intrathecal dose listed.

‡ M.E.C., minimal effective concentration of streptomycin necessary to completely prevent growth on Levinthal agar in forty-eight hours when inoculum represents loop from growth on Levinthal agar after six hours' incubation.

§ Units per pound (0.5 Kg.).

determines whether the strain of organisms from a given patient will become resistant. This experience confirms the view held by most authorities in this field; any sensitive strain, if the population is large enough, contains a small number of organisms which possess the capacity to thrive in the presence of certain of its effective antibacterial agents. The apparent development of resistance appears to represent a selective process which eliminates the sensitive organisms and thereby permits the resistant members to thrive.

While these procedures fail to detect traits of resistance in the original strains, their use in determining the sensitivity of organisms cultivated from patients after the start of streptomycin treatment has provided a clear indication of the efficacy of this antibiotic in the patients from whom the strains were isolated. In the group of patients in whom streptomycin treatment proved successful all strains isolated from spinal fluid or respiratory tract after the beginning of the treatment were shown to be sensitive. On the other hand, treatment was unsuccessful in 2 patients whose strains exhibited decided resistance during the administration of streptomycin. In 1 of the 2 patients, the organism isolated from the nasopharynx proved to be just as resistant as the strain grown from the spinal fluid.

COMMENT

The results of treatment summarized in table 7 permit analysis in regard to the severity of infection and the effectiveness of the agent or agents used. They

TABLE 6.—*Relation Between Minimal Effective Concentration on Levinthal Agar and Minimum Effective Dose Sufficient to Protect Mice Against Twenty Million Organisms per Mouse*

Strain Number	Sensitive Strains		Resistant Strains	
	M.E.C.*	M.E.D.†	M.E.C.*	M.E.D.†
1	1.1	39.0	.....	.....
1a	...	....	525.0	>630.0
1b	13.0	39.0	.....	.....
2	1.6	19.5	.....	.....
2a	...	....	73.0	315.0
3	1.1	19.5	.....	.....
3a	...	....	>525.0	>1,575.0
4	0.8	19.5	.....	.....
4a	...	....	1,078.0	>1,575.0
5	2.8-4.4	78.0	.....	.....
5a	...	....	>1,000.0	>5,000.0

* M.E.C.—Minimum effective concentration, in vitro units per cubic centimeter of culture mediums.

† M.E.D.—Minimum effective dose, units per mouse required for protection of 50 per cent of animals.

suggest that when the meningitis is mild or moderately severe as judged by laboratory and clinical standards streptomycin alone will prove an efficient therapeutic agent. However, when the disease according to these criteria is severe and the results of neurologic examination indicate injury to cerebral cells, the outcome with streptomycin therapy alone is poor indeed. Five patients exhibited such changes. This experience, although limited to a small number of patients, points strongly to the need for the initial use of all effective therapeutic agents—rabbit antiserum, sulfadiazine and strepto-

TABLE 7.—*Summary of Treatment of Twenty-Five Patients*

Number of Patients Treated	Severity of Infection	S. M. Alone			Antiserum After 4 Days of S. M.			S. M. After Unsuccessful Antiserum and Sulfadiazine			S. M., Antiserum and Sulfadiazine Initially		
		R.	S.	D.	R.	S.	D.	R.	S.	D.	R.	S.	D.
13	Mild or average	12	..	..	..	..	..	1	..	..	..	..	..
8	Severe chronic	..	..	2	..	2	..	1	1	1	1	..	..
4	Severe early	..	..	..	1	..	..	..	..	..	3	..	..
								R.	S.	D.			
	Total							19	3	3			

Key: S. M., streptomycin; R., recovered; S., survived; D., died.

mycin—in those patients who are first encountered when the preceding features are present. Although it is appreciated that the increase of survivals in this group may increase the incidence of mentally defective children, this therapeutic program must be given a trial until it is demonstrated that all the patients who recover from such infections show severe permanent mental deterioration.

The impression was gained that the discouraging experience in the latter group was no contraindication for the use of streptomycin alone against severe menin-

gitis early in the course of the disease. Case 12 provided an ideal opportunity for testing the value of this antibiotic alone in early severe influenzal meningitis. The fact that a highly resistant culture was isolated from the spinal fluid withdrawn twenty-four hours after the intrathecal injection of 25,000 units of streptomycin and an intramuscular dosage of 20,000 units per pound (0.5 Kg.) is extremely significant. It indicates that the withholding of intrathecal streptomycin for a period of thirty-six hours after the initial intrathecal injection was not responsible for the resistance of the organism. Twenty-four hours after the first intrathecal dose, at the time when our previous routine called for the second injection, the culture ultimately grown was capable of growth in more than 1,000 units per cubic centimeter. Moreover, approximately 100 per cent of the bacterial population possessed this characteristic. This experience adds evidence to the theory held by many that drug fastness can be accounted for by the presence in any sufficiently large bacterial population of a small number of organisms capable of thriving in the presence of high concentrations of the drug without any need for a change in their metabolism as the result of exposure to the streptomycin. If the severity of the meningitis is indicative of the number of organisms present, the experience with the patient in case 12 will not be an unusual one when streptomycin alone is used for treatment of severe meningitis. The part played by previous sulfadiazine therapy in reducing the bacterial population may prove to be an important one. All patients except case 12 had received sulfadiazine before the administration of streptomycin. On the other hand, if the initial dose of the antibiotic is large enough the survival of the small part of the bacterial population which is resistant may be prevented. This approach must be tried before the use of streptomycin alone is abandoned in severe infections.

The results reported indicate that much greater experience is needed before streptomycin alone can be generally recommended for the treatment of influenzal meningitis. At present its use should be limited to those institutions equipped not only to follow closely the progress of the patient by ordinary bacteriologic and chemical procedures but also to test the sensitivity of any strain isolated from the patient's spinal fluid. The cultures isolated from the original spinal fluid in all patients were judged sensitive; even when an inoculum of 1 billion organisms was used the highest minimal effective concentration was 7.5 units per cubic centimeter. It has not been possible by any method used to detect that small moiety of resistant bacteria in the initial culture of the spinal fluid of either of the patients in whom the resistance of the culture was responsible for the failure of streptomycin to sterilize the spinal fluid. On the other hand, the high minimal effective concentration of the strains isolated after treatment began could provide a reliable index of what results might be expected from streptomycin therapy in these patients.

SUMMARY

Twenty-five patients with influenzal meningitis were treated with streptomycin alone or along with other agents. It is clear that streptomycin therapy alone brings about complete recovery when the meningitis is of average severity, but when the infection is severe streptomycin is limited in its ability to cure the patient. In the severe infections the results suggest that therapeutic failure will be reduced to a minimum by the initial use of all three agents, i. e., rabbit antiserum, sulfadiazine and streptomycin.

DISLOCATIONS

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Dislocations are many times more serious than fractures, but this fact is often overlooked by the busy general practitioner. For a joint to be dislocated, the ligament and the capsule must be torn and stretched. Articular surfaces are often injured and fractures frequently occur and may be complicated by periosteum and periarticular damage. Tension and stress are placed on nerves and blood vessels, aggravated many times by severe muscle spasm, which is nature's means of immobilizing the injured part. In a dislocation rigidity is the keynote, while in a fracture increased motion or preternatural mobility is always present. Therefore, the first thing to ascertain when a dislocation is suspected is whether the extremity is rigid or flaccid.

In this necessarily limited dissertation on dislocations I wish to enumerate both of the general rules, which in my opinion should be observed for all dislocations, and some facts and procedures which can be employed in treating the more common dislocations to be considered.

The steps to be observed in the treatment of all dislocations are as follows:

1. The injured joint should be treated with the utmost gentleness in order to avoid additional injury to structures already in a pathologic state.

2. The exact degree of function or dysfunction exhibited by the nerves and the blood vessels to and from the parts distal to the dislocation should be determined in order to help prevent and/or to treat possible future complications.

3. Before any manipulation or postural treatment to effect a reduction is attempted, a roentgenogram of the involved joint should be secured in order to determine whether or not a concomitant fracture exists.

4. A roentgenogram of the injured joint should be secured after reduction in order to determine whether or not a fracture is in a position to promote healing and a return to normal function.

5. All attempts at reduction of dislocations should be made with the patient under general anesthesia. Local and nerve blocks have been used and have been successful, but only in isolated cases, and I recommend the use of a degree of general anesthesia which will effect complete relaxation of the muscles.

NOTE.—The pathologic changes are stressed to acquaint general practitioners with the seriousness of dislocations. The importance of recognizing the difference between a fracture and a dislocation is emphasized.

THE SHOULDER

The shoulder may be dislocated anteriorly, posteriorly or inferiorly; the commonest dislocation is the anterior or subcoracoid. In considering this dislocation, one must ascertain whether it is a primary or a recurrent dislocation. The initial dislocation is the most impor-

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tant because if this dislocation is properly treated, recurrent dislocations of the shoulder will be rare. In the treatment either the Kocher method of reduction or traction, supplemented by gently lifting the head into the glenoid without pressure on the nerves or the blood vessels, offers the best method of reduction. Of course, the reduction should be performed under general anesthesia; local and nerve blocks have been used and are successful in isolated cases. The shoulder should be immobilized in a plaster Valpeau cast, care being taken to protect the skin surfaces so that they do not come in contact with each other. This cast should be worn for six weeks. If this type of treatment is carried out on the initial dislocation, a recurrent dislocation will be rare.

Every now and then one is unable to reduce an anterior dislocation, regardless of the type of method or the procedure employed. The underlying pathologic condition is that the long head of the biceps is separated from the interbicipital groove, forming a tight band over the glenoid fossa and thus preventing the reduction of the dislocation. One should keep this in mind when unsuccessful in reducing a dislocation of the shoulder, and an early operation should then be performed.

An anterior or inferior dislocation complicated by a fracture of the greater tuberosity should be reduced, and then a roentgenogram should be taken to see whether the fracture is in the correct position; if not, surgical intervention is indicated, for otherwise the patient will lose elevation and external rotation.

Posterior dislocations of the shoulder are treated similarly—namely, by immobilization but never by a plaster Valpeau cast, as they push the head posteriorly, which would favor a redislocation. Immobilization should be alongside of the body with the elbow flexed at right angles.

The most common nerve injury associated with dislocation is of the ulnar nerve. Such injuries are usually permanent, regardless of the type of treatment. On the initial inspection of a dislocation, the circulation and the nerve supply should be investigated, as this information is important should complications occur.

Recurrent dislocations occur because of the lack of initial immobilization in athletes and sometimes in persons with epilepsy. There are many successful operative procedures for the correction of this condition. I am surprised at the number of physicians who tell their patients that there are no good surgical procedures for the correction of recurrent or habitual dislocations. Many good technics have been perfected: the Nicoli, if properly performed and the collar tightened, gives excellent results. Also the Henderson, the Magnuson and the Bankhart, and modifications and combinations of these, have proved successful.

NOTE.—The preliminary care of the initial dislocation is stressed to avoid recurrent dislocations. Lesions of the ulnar nerve following dislocations are the most common and are usually permanent. Operative repairs for habitual dislocations have proved successful.

THE ELBOW

The next important dislocation encountered is that of the elbow. There are four types, lateral, medial, anterior and posterior. In anterior dislocations there is either a tear of the triceps tendon or a fracture of the olecranon. The most important findings in a dislocated elbow are, first, interruption of the blood and nerve supply and, second, complication of the dislocation by articular damage, fracture and periosteal tears. Posterior dislocations are the most common; they are either lateral or medial, and are complicated by severe soft tissue and many times by osseous pathologic conditions.

Since all these dislocations occur in hyperextension, the reduction must be in flexion. It must be borne in mind that lateral or medial dislocations cannot be reduced as such without causing increased trauma and possibly a fracture of the articular surface. These dislocations, therefore, should be reduced as true posterior dislocations; in other words, if the elbow is medially or laterally displaced, and if one then manipulates so as to cause a true posterior dislocation, with the elbow flexed and the manipulator's two thumbs on the olecranon process and the fingers on the anterior portion of the upper arm, the forearm can be waved so as to cause acute flexion rotating the olecranon around the lower end of the humerus. This is an easy method for the reduction of posterior dislocations. The elbow should be immobilized at right angles with supination of the forearm for a period of four to six weeks.

The complications that usually ensue following a dislocation of the elbow are calcification of the lateral ligaments of the joint, myositis ossificans extending up the biceps tendon, and periarticular adhesions and arthritis. Myositis ossificans is a serious complication, and patients should be warned that after a dislocation of the elbow it will most likely be present. The calcification limits the amount of flexion and extension of the elbow joint, and if early surgical treatment is attempted, it will recur. In my experience, the best treatment is to wait for approximately nine months, until full bone repair has taken place and then to resect the bone. The results are not too encouraging, as in 50 per cent of the cases the ossification returns and limits the ultimate function of the elbow.

NOTE.—An easy method of reduction is emphasized. Myositis ossificans is a serious complication. One should wait nine months after a dislocation before attempting surgical treatment because of the danger of recurrence.

THE HIP

The next most common dislocation is that of the head of the femur. Here there are anterior, posterior and inferior or thyroid dislocations and many varieties of these types. Anterior dislocations are rare because it is necessary to tear the Y ligament in order to dislocate. This entails a severe amount of trauma, and there are usually pathologic conditions associated with these dislocations severe enough to cause the death of the patient. Posterior dislocations are common and may occur with or without a fracture of the head or acetabulum. Regardless of whether there is a fracture of the head or acetabulum, dislocation should be reduced as early as possible. If the fragment is large, an open reduction and internal fixation of the fragment may be necessary.

There are two methods of reduction: the Kocher, which is an excellent method but which entails a great amount of lifting in order to reduce the dislocation, and an old method that has been forgotten, namely, the Stimson method. When the second method is employed, the patient is placed face down, the leg is permitted to hang over the side of the table, and then by manipulation reduction can be accomplished. After reduction,

immobilization by a unilateral or a bilateral spica cast with slight abduction should be carried out for a period of from four to six weeks. When there is a fracture of the acetabulum with the dislocation, the patient should not be permitted to bear weight for at least six to twelve months, but should be protected with an ischial non-weight-bearing caliper or brace.

The complications after dislocations of the hip are usually calcification of the capsule with limitations of motion, and, while the result appears very satisfactory at the end of one or two years, by the latter part of the third year or early part of the fourth year one begins to notice a narrowing of the joint space, pain on motion, limitation of motion, and eventually a severe traumatic arthritis. Aseptic necrosis may occur earlier, and in 95 per cent of the cases of dislocation of the hip complicated by fractures either aseptic necrosis or traumatic arthritis develops, which eventually results in marked disability of the hip joint. In this event surgery in the form of an arthroplasty may be indicated.

NOTE.—The Stimson method is preferred. Fractures of the head and acetabulum seriously complicate full recovery, as 95 per cent of these injuries result in aseptic necrosis or severe traumatic arthritis. Arthroplasty can benefit these persons.

THE KNEE

The next most common dislocation is of the knee. Here usually anterior and posterior dislocations are found with either lateral or medial combinations. When a dislocation occurs in this area, the cruciate ligament must be torn and the lateral ligament either torn or stretched, and frequently the internal and/or the external cartilages are injured. This is only part of the pathologic condition present, as one will frequently see complete loss of circulation to the extremity, which, on investigation, is found to be due not to a rupture of the popliteal vessel but to a segmental spasm of the artery. Perivertebral blocks are indicated in this procedure, and frequently stripping of the vessel is necessary.

Traction with about 10 degrees of flexion of the knee, correcting the lateral or medial displacement so as to convert the dislocation into a true anterior or posterior dislocation will usually completely reduce this dislocation. With proper immobilization, and that means at least twelve weeks in a plaster cast followed by a brace for from four to six weeks, a goodly percentage of these patients will respond to treatment without surgical intervention. There are some conditions, however, that will not respond to conservative treatment, and various operations for stabilization of the knee joint are necessary.

NOTE.—Vascular complications can be alleviated by perivertebral blocks. Surgical treatment is beneficial for stabilization if conservative method fails.

CONCLUSION

In the short time allotted to me I have enumerated the more common major dislocations encountered in private practice. I have tried to point out the pitfalls and dangers of various dislocations and their complications, but I cannot emphasize too strongly that all the modern textbooks treat dislocations too lightly. As a matter of fact, I know of no fracture that will give the same amount of permanent disability as a dislocation. When one considers injuries of nerves, and blood vessels, periarticular adhesions, periosteal tears, injuries of ligaments, articular trauma, arthritis and all the other complications that occur following dislocations, one can readily understand that dislocations are one of the most important pathologic conditions encountered in the surgical treatment of bones and joints.

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ABSTRACT OF DISCUSSION

DR. GEORGE IRVING WRIGHT, Klamath Falls, Ore.: I just want to emphasize again the matter of judgment in the handling of dislocations. We who have to do with athletic injuries often find that we have to follow up on the work of an enthusiastic athlete who takes a dislocation and tries to reduce it by main strength and awkwardness. As has been said, that does more harm than good. A lot of people who have had a little first aid are guilty of doing the same thing. That should be emphasized more and more. I think we get more trouble from dislocations than we do from fractures. I happen to have work among school athletes, and I have had more harm done by the enthusiastic first aid helper and the enthusiastic trainer than anything else.

Special Article

SIXTH ANNUAL SUMMARY OF FOURTH OF JULY INJURIES

Due to Fireworks and Explosives

SECOND SERIES

From 1937 to 1941, inclusive, the American Medical Association conducted annual surveys of injuries resulting from the celebration of the Fourth of July with fireworks. Because of the war these surveys were discontinued in 1942, 1943, 1944 and 1945. As a result of information indicating that fireworks again would be sold and cause injuries in 1946, the American Medical Association has resumed its annual summaries of injuries resulting from the celebration of the Fourth of July with fireworks. This third series of summaries is similar to those published from 1903 to 1916 and discontinued thereafter because of the reduction in the number of such accidents.

DEATHS

Six deaths were reported in 1946 as directly due to the celebration of the Fourth of July with fireworks or other explosives. The states which reported such deaths are given in table 1, together with a comparison of the similar figures for recent years. The six deaths reported in 1946 may be compared with eleven recorded in 1941 and eight in 1940, which were the last two years surveyed. A 13 year old girl was killed in Philadelphia by an army mortar shell which traveled farther than expected during the celebration. A 17 year old Milwaukee boy was killed while in swimming when a large firecracker was tossed near him. He died as a result of a ruptured lung caused by the explosion. In Louisiana a man died as a result of a gunshot wound of the head. In Beaumont, Texas, a baby died following gas gangrene resulting from a fracture of the right arm. A man in West Virginia received a gunshot wound of the abdomen from which he died. In Pater-

son, N. J. a man aged 57 died of a heart attack after a prankster had thrown a large firecracker in front of his car. It is noteworthy that none of these fatalities were caused by burns resulting from igniting of clothing from fireworks. The only other previous year reviewed in which deaths were not reported from this cause was 1941.

TETANUS

Deaths from tetanus were not reported in 1946, although apparently many patients were given tetanus antitoxin or booster injections of toxoid. This favorable situation is probably due almost entirely to the liberal use of antitoxin and active immunization with toxoid and to the caution and care used by physicians.

SERIOUS INJURIES

Hospital questionnaires and newspaper clippings recorded a number of serious and unusual injuries resulting from fireworks, as in previous years. A

TABLE 1.—*Deaths by States*

State	1946	1941	1940	1939	1938	1937
California	0	0	1	2	0	1
District of Columbia	0	0	1	0	0	0
Connecticut	0	0	0	0	1	0
Florida	0	0	0	1	0	1
Idaho	0	0	0	0	0	6
Illinois	0	3	0	1	1	0
Indiana	0	1	0	1	3	0
Iowa	0	0	1	0	0	0
Louisiana	1	..	..	..	..	..
Maine	0	0	2	0	0	0
Maryland	0	0	0	1	2	1
Massachusetts	0	1	0	2	0	2
Mississippi	0	0	0	0	1	0
Missouri	0	1	0	0	0	0
New Jersey	1	0	1	1	0	1
New Mexico	0	1	0	0	0	0
New York	0	0	1	3	2	3
Ohio	0	1	0	0	1	1
Pennsylvania	1	0	0	0	6	0
Rhode Island	0	0	0	0	0	1
Tennessee	0	2	0	0	0	0
Texas	1	0	0	1	0	1
Utah	0	0	0	0	0	2
West Virginia	1	0	0	0	1	0
Wisconsin	1	1	0	0	0	0
Wyoming	0	0	1	0	0	0
Totals	6	11	8	13	18	20

17 year old youth in Lawrence, Kan., was struck in the eye by a particle from an aerial bomb, which necessitated removal of the eye. Forty-four other injuries to the eye were reported in 1946. A youth in North Dakota was seriously injured when he and some others placed firecrackers in a can to make a bomb. When the explosion took place a piece of tin pierced the lung. In Fall River, Mass., a home-made bomb was exploded and caused a 16 year old school boy to lose his left hand. The types of injuries reported, together with a comparison with several previous years, are summarized in table 2.

INJURIES

The total number of injuries from firecrackers and other explosives in each state is given in table 4 and compared in parallel columns with the injuries recorded for 1941, 1940 and 1938. The figures listed are almost certainly incomplete, as hospitals which treated injuries and did not report, as well as accidents or injuries treated in physicians' offices, are not included. The totals recorded, therefore, must be considered incomplete, and if all injuries had been reported the numbers would doubtless be considerably higher.

The states with the most striking improvement since 1941 are California, Massachusetts, Ohio and Rhode Island. This is undoubtedly directly due to the fact

TABLE 2.—*Total Injuries by Type*

Injuries	1946	1941	1940	1939
Burns and lacerations	792	1,818	4,140	5,305
Loss of vision of one or both eyes	1	9	15	19
Injury to eye	44	104	199	158
Loss of finger, hand or other member	24	17	38	41
Internal injury, fracture or other serious accident	35	91	70	37
Totals	896	2,039	4,462	5,560

that those four states enacted satisfactory anti-fireworks laws after 1941, which were in effect in 1946. In spite of a great decrease in the total number of accidents in 1946 as compared with 1941, Kansas, Nebraska, Oklahoma and Wisconsin had materially more accidents in 1946 from fireworks than in 1941. These four states do not have anti-fireworks legislation that is considered satisfactory. The result is a clearcut demonstration that injuries can be prevented by adequate state legislation and that the number of unnecessary accidents rises when such legislation is not in effect. Four other states, Connecticut, Illinois, New York and Texas, recorded approximately the same number of accidents from fireworks in 1946 as in 1941. Of these four states only New York and Illinois have in effect model types of anti-fireworks laws. With regard to New York, it is noteworthy that 99 of the 106 injuries reported in that state came from New York City, presumably indicating lack of enforcement of the state law within that city.

Table 3 lists the cities reporting the largest number of injuries from fireworks in 1946. Wichita, Kan., is a newcomer to the list. This city is responsible for

TABLE 3.—*Injuries in Principal Cities*

	1946 *		1941 *		1940		1939	1938
	Injuries	Rate per 100,000	Injuries	Rate per 100,000	Injuries	Rate per 100,000	Injuries	Injuries
Wichita, Kan.	38	33.0	..	....	..	....	...	...
Cincinnati	41	9.0	26	5.7	62	13.7	31	...
Kansas City	30	7.5	30	7.5	55	13.8	243	...
Hartford, Conn.	4	2.4	46	27.7	..	....	...	...
Chicago	61	1.8	146	4.3	253	7.5	226	176
Washington, D. C.	11	1.6	70	10.6	68	14.0	57	...
St. Louis	11	1.3	35	4.3	..	....	...	295
New York	99	1.3	..	....	..	....	...	...
Pawtucket, R. I.	1	1.3	25	33.3	..	....	...	...
Cleveland	3	0.3	47	5.4	64	7.1	42	129
Boston	1	0.1	74	9.6	76	9.7	71	...
Los Angeles	3	0.02	132	8.8	124	10.0	258	180
Providence, R. I.	0	....	78	31.0	..	....	...	...
Youngstown, Ohio	0	....	48	28.7	..	....	...	...

* Rate per hundred thousand based on 1940 census; rates for previous year based on 1930 census.

38 of the 100 injuries reported from Kansas. With the exception of Cincinnati and New York City, none of the cities in the "bad" list this year is in a state which has a model anti-fireworks law. Like New York City, but to an even greater degree, Cincinnati illustrates a failure to enforce state laws now in effect. In 1941 two cities in Rhode Island, Pawtucket and Providence,

showed the highest rates of injury per hundred thousand. Since that time Rhode Island has adopted satisfactory legislation and the number of injuries in the entire state has declined from 141 to 2, a great demonstration of what can be done by a satisfactory law, together with enforcement.

This year, as in 1940 and 1941, hospitals were specifically asked to list injuries from cap pistols separately. Only 1 injury in Illinois was associated in rule that satisfactory control of injuries from fireworks is obtained by those states which enact and enforce statewide laws. The evidence for this is clearly indicated by the fact that in 1939 there were 7,933 accidents attributable to fireworks recorded as compared with 903 in 1946, a reduction due almost entirely to the adoption of this policy.

Fireworks and firecrackers as a source of death and disfigurement can be still further reduced by the prompt

TABLE 4.—*Injuries, by Type, Caused by the Celebration of the Fourth of July with Fireworks and Other Explosives*

	1946							Total Injuries		
	Burns and Lacerations	Loss of Vision of One or Both Eyes	Injury to Eyes	Loss of Fingers, Hand or Other Member	Internal Injury, Fracture or Other Serious Accident	Cap Pistols	Total Injuries	1941	1940	1939
Alabama	..	..	..	..	..	..	..	2	25	15
Arizona	..	..	..	..	..	..	..	1	12	16
Arkansas	3	0	0	1	0	0	4	2	5	2
California	17	0	2	1	2	0	22	231	251	509
Colorado	12	0	0	0	0	0	12	12	12	21
Connecticut	36	0	0	1	0	0	38	81	48	125
District of Columbia	11	0	0	0	0	0	11	70	68	31
Delaware	..	..	..	..	..	..	..	0	0	39
Florida	..	..	..	..	..	..	..	33	45	29
Georgia	1	0	0	0	0	0	1	1	6	7
Idaho	6	0	0	0	0	..	6	4	7	5
Illinois	83	0	4	1	2	1	91	209	400	512
Indiana	5	0	0	2	1	0	8	1	2	346
Iowa	6	0	1	2	1	0	10	5	7	6
Kansas	95	1	2	0	2	0	100	61	147	74
Kentucky	6	0	0	1	0	0	7	2	13	11
Louisiana	0	0	0	0	0	0	2	3	4	2
Maine	27	0	2	1	1	0	31	39	46	75
Maryland	3	0	0	2	0	0	5	7	211	110
Massachusetts	10	0	1	0	2	0	13	212	314	467
Michigan	3	0	0	0	1	0	4	42	83	107
Minnesota	7	0	2	0	0	0	9	42	165	143
Mississippi	..	..	..	..	..	..	..	0	2	1
Missouri	71	0	2	1	6	0	80	86	155	553
Montana	6	0	0	0	1	0	7	15	23	30
Nebraska	12	0	0	0	0	0	12	5	30	14
Nevada	..	..	..	..	..	..	..	0	1	1
New Hampshire	..	..	..	..	..	..	..	28	36	32
New Jersey	11	0	1	0	0	0	12	35	158	88
New Mexico	0	0	0	1	0	0	1	4	3	5
New York	101	0	3	2	0	0	106	105	1,114	1,639
North Carolina	5	0	1	1	0	0	7	5	8	2
North Dakota	4	0	1	0	1	0	6	5	5	8
Ohio	51	0	5	1	4	0	61	276	461	585
Oklahoma	25	0	2	0	1	0	28	10	49	43
Oregon	21	0	1	0	0	0	22	20	47	29
Pennsylvania	31	0	3	0	3	0	37	67	58	1,702
Rhode Island	2	0	0	0	0	0	2	141	239	210
South Carolina	2	0	0	0	0	0	2	4	0	3
South Dakota	5	0	2	1	1	0	9	17	21	8
Tennessee	3	0	0	0	0	0	3	0	6	9
Texas	25	0	1	0	0	0	27	44	42	60
Utah	2	0	1	0	0	0	3	6	1	18
Vermont	..	..	..	..	..	..	..	4	6	2
Virginia	7	0	0	1	0	0	8	18	11	13
Washington	6	0	2	0	2	0	10	38	32	70
West Virginia	1	0	1	1	2	0	5	4	4	41
Wisconsin	64	0	1	3	2	0	70	25	57	117
Wyoming	3	0	1	0	0	0	4	6	6	6
Hawaii	5	0	2	0	0	0	7	..	..	..
Unknown	..	..	..	..	..	..	..	0	16	0
Totals	702	1	44	24	35	1	903	2,039	4,402	7,933

any sense with caps. This occurred when a child scratched a roll of paper caps, at which time a puff occurred which blackened the child's hand. After washing, no burn or injury could be seen.

COMMENT

The reduction of unnecessary injuries from fireworks depends both on adequate state legislation and on satisfactory enforcement. In 1941 Maryland and New York showed the effects of such policy by an enormous reduction in injuries; in 1946 California, Massachusetts, Oklahoma and Rhode Island showed the same dramatic reduction in accidents. There are few exceptions to the enactment and enforcement of suitable legislation in those states, such as Kansas, Nebraska, Oklahoma and Wisconsin, which do not now have effective laws and which show evidence of a trend toward increasing numbers of injuries from fireworks. Ohio, which has enacted legislation since 1941, showed great improvement. As indicated in the 1941 review, enforcement of the previously enacted California legislation has brought that state into the group of those among the best in the nation, with a record of only 22 injuries in 1946, as compared with 650 in 1939, which was the peak year for that state.

Clinical Notes, Suggestions and New Instruments

ECTOPIC ENDOMETRIAL TISSUE IN THE THIGH

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Medical Corps, Army of the United States

The occurrence of a small tumor composed of endometrial tissue on the posterior aspect of the thigh of a Filipino woman seemed sufficiently unusual to warrant reporting.

REPORT OF CASE

History.—A Filipino woman aged 35, a Philippine army nurse, entered the 247th General Hospital Dec. 26, 1945 complaining of a tumor on the posterior aspect of her left thigh. The family history was noncontributory. The patient began to menstruate at the age of 17. Her periods occurred regularly every twenty-eight days and lasted three days. There was an interval of unexplained amenorrhea lasting one year when she was a student nurse of 19. She gave birth to five normal children between her twenty-first and twenty-seventh years. At the age of 32 after five months of "pregnancy" she passed a hydatidiform mole. Thereafter the menstrual history was not remarkable and the absence of further pregnancies was attributed to the use of contraceptive measures.

Present Illness.—Three years prior to admission the patient began to suffer from pain and tenderness in a circumscribed area on the posterior aspect of her left thigh during her menstrual periods. Shortly after the onset of these symptoms a small lump was noted in the affected area. This slowly but steadily increased in size. As it grew larger there was some discomfort constantly. However, the pain and tenderness continued to be accentuated during menstruation and the patient observed that the lump was larger then than during the remainder of the menstrual cycle.

Fig. 1.—Appearance of tumor.

Physical Examination.—The patient was well developed and well nourished. Striae gravidarum were present on the abdomen and a small reducible umbilical hernia was noted. Pelvic examination revealed a parous outlet, a smooth but transversely lacerated cervix, a rather large but normally situated and freely movable fundus and normal adnexa. External and internal hemorrhoids were present. In the posterior midline of the left thigh about a hand's breadth below the gluteal fold there was a deep seated, hard, tender tumor about the size of a golf ball, which moved with the surrounding tissues but was not attached to the skin. The left thigh was ½ inch less in circumference than the right, and the patellar reflex was less active on the left than on the right.

Laboratory Studies.—A complete blood count, urinalysis and roentgenologic examination of the chest and of the left thigh revealed nothing remarkable.

Operation and Result.—On December 20, under intravenous sodium pentothal anesthesia, the tumor was excised through a vertical posterior midline incision in the thigh. The tumor was stony hard, about 4 cm. in diameter and appeared to arise from or in the deep fascia of the thigh, whence it extended inward between the lateral and medial hamstring muscles and outward toward the skin. It was intimately adherent to the surrounding tissues and exhibited no well defined capsule or zone of demarcation. The tumor was removed with a 1 centimeter cuff of fascia and adherent fatty and areolar tissue. The wound was closed without drainage, catgut sutures being used for the subcutaneous tissues and silk for the skin. Convalescence was uneventful, and the patient left the hospital nine days after operation with the wound well healed.

Pathologic Examination.—The specimen consisted of a hard fibrous tumor about 4 cm. in diameter surrounded by an adherent layer of fatty tissue about 1 cm. in thickness (fig. 1). The cut surface of the tumor was grayish speckled with small brown spots which were the color of old blood. Microscopic examination revealed numerous epithelium lined glandular acini containing blood cells and cellular débris. The glands were separated by a loose fibrous stroma. Both the glands and the surrounding stroma resembled those of functioning endometrium (fig. 2). The impression was held that it was heterotopic endometrial tissue.

Fig. 2.—Paraffin section of tumor under high power, showing endometrial character of its glands and stroma.

COMMENT

Many explanations have been advanced for the presence of ectopic endometrial tissue. Cullen [1] has satisfactorily explained the derivation of the glandular tissue in adenomyoma of the uterus. Sampson's [2] implantation theory lends itself well to accounting for chocolate cysts of the ovary and adenomatous islands on the peritoneal surfaces of the pelvic structures. The invasive tendencies of these lesions are well known and lead to their presence in the rectovaginal septum, bladder, broad and round ligaments, umbilicus and operative scars. The

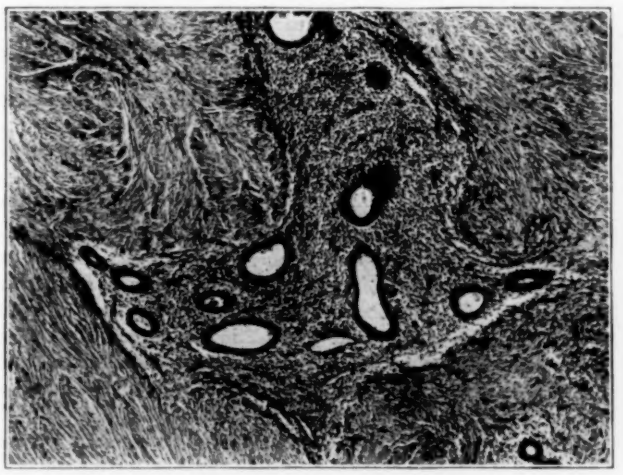

Fig. 3.—Appearance of section under low power.

Dr. Malcolm Dockerty of Rochester, Minn., examined the microscopic sections.

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2. Sampson, J. A.: Peritoneal Endometriosis Due to Menstrual Dissemination of Endometrium into the Peritoneal Cavity, Am. J. Obst. & Gynec. **14**: 422, 1927.

lymphatic system may be invaded with resulting involvement of the lymph nodes,[3] usually in the pelvis but occasionally in distant locations such as the neck and axilla. Lesions such as that noted in our patient and in other remote locations are probably best explained by the entry of endometrial fragments into the blood stream, although there are some who prefer to regard them as embryonal displacements.

Regardless of its location, heterotopic endometrium appears to be subject to the same physiologic influences as the uterine mucosa. During menstruation there is vascular engorgement and bleeding into the lumens of the glands. In pregnancy the stromal cells may display decidual reactions.[3] In our patient the history of periodic swelling, pain and tenderness concurrent with menstruation suggests that her tumor responded to endocrine stimulation.

SUMMARY

1. A tumor composed of heterotopic endometrial tissue was removed from the thigh of a Filipino woman.

2. The history of periodic swelling, pain and tenderness of the tumor concurrent with menstruation suggests suceptibility to endocrine influences.

PANCREATIC CALCULI WITH ASSOCIATED DIABETES MELLITUS

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Although pancreatic calculi were discovered by Regnier de Graff in 1667, only a relatively few cases have been reported to the present. Haggard and Kirtley,[1] reviewing the literature for a period of two hundred and seventy-one years, could find authentic records of but 204 cases. In this series operation was performed in 65 cases; 28 were cases in which a positive roentgenologic diagnosis was made and the remainder were discovered at autopsy. In 1944 Lionello, Ficarra and Ryan [2] compiled 18 more cases to bring the total to 232.

Though the etiology of pancreatic calculi is as yet unknown, differentiation is made [3] according to the location of the calcifications of the pancreas. True pancreatic calculi are found within the duct system, particularly the ducts of Wirsung and Santorini near the head of the pancreas, and are smooth, rounded and occasionally faceted. These stones, composed of calcium carbonate or tribasic calcium phosphate, vary in number from 1 to 300 and often fuse to form branching irregular masses. In contrast, there is a diffuse or petrifying calcification of the pancreatic parenchyma which is held to be the result of a subacute pancreatitis.

Pancreatic calculi, whatever the origin, cause obstruction of the ducts with gradual dilatation. This process leads to the progressive atrophy of the acini, replacement fibrosis and the frequent formation of cysts,[4] which occasionally reach great dimensions. Calcifications of the parenchyma often occur in association with true calculi [5] and, if indeed an indication of an inflammatory process, may indicate that an associated pancreatitis is present. The islet cells usually escape destruction until the process is advanced.

The infrequency with which the diagnosis is made prior to operation or autopsy is due mainly to the failure of most clinicians to include it in the differential diagnosis of abdominal pain. Haggard and Kirtley [1] listed as diagnostic criteria "(1) colic-like pain referred to the back or left epigastrium, (2) slight preponderance in males, (3) average age of patients around 40, (4) long intervals between attacks, (5) bilious vomiting and increased salivary flow, (6) midepigastric tenderness, (7) steatorrhea when present, (8) relative absence of jaundice (present in 27.6 per cent), (9) expulsion of calcium carbonate or phosphate stones in the stool, (10) moderate loss of weight and strength, (11) glycosuria when present and (12) typical appearance of stones roentgenologically." Clinically the condition can only be suspected, and for final diagnosis the roentgenogram must be relied on.

REPORT OF CASE

A. K., a white man aged 46, a musician, complained of a sudden onset of abdominal pain of two days' duration. The pain, accompanied at the start by nausea and vomiting, was constant, colicky and gradually subsiding. It radiated to the back in the midline and to the lower part of the abdomen.

Fifteen months before, the patient had a similar episode of abdominal pain which lasted three weeks. Gastroscopy and a gastrointestinal series performed at this time were negative. Within six weeks of the onset he was found to have glycosuria and was placed on a diabetic regimen including 30 units of protamine zinc insulin. However, within five months he was able to control his diabetes with diet alone and he had been sugar free, with one minor exception, till the present illness.

Physical examination was negative except for tenderness to deep palpation localizing slightly to the right of the midline in the epigastrium. The liver was palpable 2 fingerbreadths below the right costal margin, and there was a questionable mass under the area of localized tenderness.

Fig. 1.—Anteroposterior view of opaque calculi in the head of the pancreas.

Laboratory reports, including blood counts, nonprotein nitrogen, basal metabolism, blood cholesterol, Kahn reaction, sulfobromophthalein test, cephalin flocculation and icterus index, were within the limits of normal. Duodenal drainage showed a normal amylolytic power of 100 units, and there was no evident increase of fat in the stools. Blood sugar was 111 and the urine tested 1 per cent for sugar. Blood amylase was 80 and 60 mg. on two occasions.

3. Russell, H. B.: Decidual Reaction of Endometrium Ectopic in an Abdominal Lymph Node, Surg., Gynec. & Obst. **81**: 218, 1945.

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5. Pasternack, J. G.: Ann. Int. Med. **19**: 757-767 (Nov.) 1943.

Cholecystogram revealed a normally functioning gallbladder, though a number of small, dense rounded radiopaque shadows were demonstrated to the right of the second lumbar vertebra (fig. 1). A gastrointestinal film showed these stones to be located entirely within an enlarged C loop of the duodenum (fig. 2), and a diagnosis of true pancreatic calculi was made.

Abdominal pain gradually subsided after five hospital days. However, 24 units of 2:1 mixture (regular to protamine) and a diet restricted in carbohydrate were necessary to control the diabetes at the time of discharge.

COMMENT

This patient proved to have nearly all the clinical findings of pancreatic calculi and in addition was chronically addicted to alcohol, which habit, according to many authors,[6] is a predisposing factor.

Fig. 2.—Lateral view of pancreatic area following a barium meal. Note the large C loop of the duodenum.

It is interesting to speculate on the production of diabetes in this case, as the appearance of that condition is usually described as the end result of interacinar fibrosis and subsequent complete destruction of the pancreas. However, the observation has been made by Jaleski[7] that the appearance of diabetes occurs in the earlier stages of the disease and often bears little relation to exocrine dysfunction. It is possible that the process is not purely obstructive (as the experimental lesions produced after ligation of the main pancreatic ducts) and that the associated pancreatitis produces sufficient swelling and edema to interfere with the blood supply to the islets. This concept would explain not only the exacerbation of the diabetes which occurs with the recurrence of pain but also the reversibility of the process and the return of islets to near the former level of function.

Although it is claimed by some authorities that there is no definite means of outlining the pancreas,[2] roentgenologic examination of the barium filled C loop of the duodenum was found, in our case, to locate the stones accurately in the head of the pancreas.

Despite the fact that the incidence of tuberculosis in these cases is no more frequent than diabetic patients in general, the coincident pancreatic insufficiency may be a predisposing factor to the other pulmonary complications, as lung abscess and gangrene, which frequently terminate the picture.[8] Whether the same mechanism (vitamin A deficiency) is at work here, as has been postulated[9] for fibrocystic disease of the pancreas in infants, remains to be seen. Insufficient postmortem data are available to correlate accurately the conditions.

The fatty liver which is said to accompany pancreatic insufficiency is described by Snell and Comfort[10] as occurring in the advanced stages of pancreatic lithiasis. Assuming that the deficiency of the lipotropic hormone lipocaic (L. R. Dragstedt) was responsible for this change, these workers administered the hormone to patients showing liver damage and noted a subsequent regression of the liver margins and a return to normal of the functional tests.

Most authors indicate that the process of atrophy of the pancreas is progressive and will go on to nearly complete destruction of the organ. For this reason surgical operation is commonly advocated in those cases in which there is no evident insufficiency, and several operations have been performed with favorable results.[11] Medical management of the cases includes, in addition to diabetic therapy, oral pancreatic extract when there is evidence of acinar failure. Ephedrine has been used on the theory that it inhibits pancreatic secretion, and hydrochloric acid has been given to dissolve the stones, but the efficacy of these measures is doubted. The administration of supplementary fat soluble vitamins and lipocaic (or other lipotropic substances) would seem to have rationale when advanced destruction of the gland is encountered.

636 Church Street.

6. Haggard and Kirtley.[1] Poppel and Levy.[2] Jaleski.[7]
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10. Snell, A. M., and Comfort, M. W.: Am. J. Digest. Dis. & Nutrition **4**: 215-218 (June) 1937.
11. Haggard and Kirtley.[1] Lionello, Ficarra and Ryan.[3]

Council on Pharmacy and Chemistry

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The following additional articles have been accepted as conforming to the rules of the Council on Pharmacy and Chemistry of the American Medical Association for admission to New and Nonofficial Remedies. A copy of the rules on which the Council bases its action will be sent on application.

AUSTIN SMITH, M.D., *Secretary.*

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SATURDAY, OCTOBER 26, 1946

THERAPY OF THROMBOSIS AND EMBOLISM

Hunter and his associates [1] found in a study of 400 unselected necropsies on adults that phlebothrombosis of the lower extremities begins in the deep vessels of the calf and tends to propagate toward the heart, and that thrombosis of the femoral veins alone is an uncommon occurrence. The studies of Olow, Denecke, Roessle, Neumann, Frykholm and others likewise demonstrated that thrombosis with or without embolism has its origin in approximately 95 per cent of the cases in the deep veins of the calf of the leg or foot. Ochsner and DeBakey [2] advanced the concept of two major types of thrombosis, those of thrombophlebitis and of phlebothrombosis. The clinical manifestations of the two, according to these investigators, are entirely different. In thrombophlebitis the symptoms are definite, whereas in phlebothrombosis there are few if any clinical manifestations. As the result of inflammatory reaction, the clot in thrombophlebitis is firmly adherent to the vein wall and therefore is not likely to become detached and result in embolism. The coagulum of phlebothrombosis, on the other hand, is loosely attached to the vein wall and can be detached easily, resulting in embolism. This point of view is accepted by Homans, Allen and others. Fine and Starr,[3] however, believe this distinction is not reliable as a basis for interference or noninterference for prevention of embolism.

Prevention of pulmonary embolism is primarily a problem of the earliest recognition of the presence of plantar or calf venous thrombosis. Awareness of the condition on the part of the clinician, attention to every inexplicable rise of pulse and temperature curves and to insignificant pulmonary symptoms, such as a mild pleuritic pain, and daily or, still better, twice daily examination of the lower extremities should enable one to recognize this complication. One should not wait for obvious swelling and cyanosis and tenderness along the posterior aspect of the calf, because this represents an advanced stage. Allen felt that pain in the calf on forcible dorsiflexion of the foot (Homans' sign) was a sure indication of a thrombosed vein. However, in his 202 patients subjected to femoral vein interruption this sign was positive in only 59. Veal and Hussey [4] found that tenderness of the posterior calf, either localized or extensive and following the course of the deep veins, is almost always the first local sign of venous thrombosis. Venography, advocated by Bauer as an indispensable diagnostic procedure, is no longer considered helpful by many investigators. Allen, Moses and others object to venography because they feel that there is a definite risk of initiating or increasing the venous thrombosis. False negative reports occur in as many as 33 per cent of the cases and are especially frequent in the early stages of the disease when phlebothrombosis is most dangerous, interpretation of the phlebograms is at times difficult and venous spasm is at times impossible to differentiate from organic occlusion.

The two methods of preventing the development of pulmonary embolism, the use of anticoagulants and surgical vein interruption proximal to the thrombus, have each their adherents. Bauer [5] advocates intensive heparin treatment as soon as the diagnosis of incipient thrombosis is made. This is combined with forceful, active leg movements from the first day. He reports that there was not a death from postoperative pulmonary embolism in 209 cases of acute deep leg thrombus thus treated. Barker and his associates [6] found in their analysis of 1,000 patients to whom Dicumarol (3-3'-methylene-bis-[4-hydroxycoumarin]) was given for the purpose of preventing postoperative venous thrombosis, pulmonary embolism and thrombophlebitis that this coagulant is effective in preventing these complications in cases in which there have been nonfatal pulmonary embolism and thrombophlebitis or a history of previous thrombosis or embolism, when the drug has been given prophylactically and when thrombosis and embolism have not occurred. They state that there is a small risk of bleeding; when bleeding does occur it can be combated by large doses of synthetic vitamin K and transfusion of freshly drawn citrated blood. Those who are opposed to the anticoagulants state that administration of heparin and Dicumarol poses a threat of serious hemorrhage and that these drugs are not able to affect the clots already formed.

Homans [7] was probably first in this country to perform ligation of the superior femoral vein for the

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5. Bauer, Gunnar: Heparin Therapy in Acute Deep Venous Thrombosis, J. A. M. A. **131**: 196 (May 18) 1946.
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prevention of pulmonary embolism. Allen [8] concludes, after a comparative study of the two methods at the Massachusetts General Hospital, that thrombectomy and bilateral superficial vein interruption are a safe and satisfactory method of treating early thrombophlebitis. The method is reliable in preventing pulmonary embolism after signs, symptoms or the clinical chart show evidence of phlebothrombosis and is particularly suitable in the older age group of patients. Dicumarol in small doses appears to be safe and effective in selected patients as a preventive against thrombosis and embolism. It is useful in conjunction with femoral vein interruption after thrombosis occurs. Careful laboratory observations on the plasma prothrombin time preoperatively and after administration of Dicumarol are imperative for the safety of the patient when this drug is used.

Moses [9] believes that nothing short of ligation of the inferior vena cava is adequate when acute thrombophlebitis of the lower extremities, complicated by embolization, has extended to or above the inguinal ligament or when the pelvic veins are the source of pulmonary emboli. In the presence of pulmonary infarcts whose source remains obscure, ligation of the inferior vena cava is in his opinion the safest procedure. Moses, as well as O'Neil,[10] calls attention to the fact that ligation of the vena cava is not technically difficult and that edema of the legs following its ligation is less than that following ligation of the femoral veins.

HYPERPLASTIC SKIN GRAFTS

About three quarters of a century ago Thiersch [1] suggested that better success might be had in the grafting of skin if the cells of the two apposed surfaces were already in an excited state. Surgeons today recognize that transferred skin takes best on the bed of vascular, responsive tissue. As tests seem not to have been made of what would happen if the cellular components of the graft itself were stimulated prior to transfer, Rous [2] of the Rockefeller Institute made a comparison between autografts of normal rabbit skin and grafts from skin previously "activated" by chemical irritants.

In a typical experiment a rabbit was swabbed on one shaved flank with turpentine-acetone ten days and eight days before the grafts were procured. The local inflammation was subsiding when the grafts were taken, yet the local skin was half again as thick as normal skin. Microscopically the graft contained numerous mitotic figures and other evidences of rapid cell division. A safety razor blade on a metal handle with flattened cleats was used to obtain the grafts. Control grafts of normal skin were taken from the opposite flank of the same animal. Three normal grafts and three hyperplastic grafts 2 cm. square from each animal were transferred to the overlying exposed lumbar muscles. The grafts were held in place by a paraffin-gauze pressure bandage. Three days later the rabbits were killed by intravenous injection of about 35 cc. of dilute india ink. The three normal grafts merely lay apposed to their beds, whereas the hyperplastic grafts had united and were in most places vascularized, as shown by india ink injections.

Similar results were obtained when chloroform was used as the preparatory irritant or when the skin was prepared by prolonged application of broth compresses. In all cases grafts were taken with greater ease from the activated area. The activated grafts showed less tendency to contract than normal grafts. In all cases the hyperplastic grafts united with the bed more rapidly and were vascularized sooner than the normal grafts.

These advantages are to a certain extent offset by the increased technical skill necessary for the successful use of hyperplastic grafts. The increased nutritional requirements of hyperplastic skin and its hypersusceptibility to bacterial infection are problems. If the activated graft is too thick it often becomes necrotic. If placed on a bed of dense, almost avascular, tissue it often dies. Control grafts from normal skin are often able to "stick it out" under such adverse conditions. For these reasons Rous hesitates to predict any successful application of his new technic to human surgery.

HEALTH PROTECTION AND ATOMIC ENERGY

Bale [1] predicts that the control of atomic energy is bound to become of key importance as an aid in industry, in the advancement of science and in medicine. The industrial processes associated with atomic energy differ from previous large scale industry by the presence in many of these operations of radioactivity from which plant personnel must be protected. This is of special importance in instances in which it is proposed to utilize the energy produced by nuclear fission for power purposes. One of the major obstacles to the utilization of atomic energy, particularly in portable power units such as might be suitable for an automobile or airplane, is the necessity of adequate protection against radioactivity. A thousand automobiles averaging 20,000 miles a year and operated by energy derived from nuclear sources would produce an amount of radioactivity equivalent to that produced by an atomic bomb. Even if production of radioactivity in space and time

8. Allen, A. W.: Thrombosis and Embolism: Preliminary Report on Comparative Results of Femoral Vein Interruption and Dicumarol Therapy, Bull. New York Acad. Med. **22**: 169 (April) 1946.
9. Moses, W. R.: Ligation of the Inferior Vena Cava or Iliac Veins, New England J. Med. **235**: 1 (July 4) 1946.
10. O'Neil, E. E.: Ligation of the Inferior Vena Cava in the Prevention and Treatment of Pulmonary Embolism, New England J. Med. **232**: 641 (May 31) 1945.
1. Thiersch, Karl: Arch. f. klin. Chir. **17**: 318, 1874.
2. Rous, Peyton: J. Exper. Med. **83**: 383 (May) 1946.

1. Bale, W. F.: Health Protection in the Production and Use of Atomic Energy, Occup. Med. **2**: 1 (July) 1946.

is much more diffuse than in atomic explosion, it can still represent a substantial occupational hazard.

Bale believes that the source of energy from atomic power technically most easily available will be generation of power in a large nonmobile plant functioning as a source of electrical power. The experience at Hanford demonstrates that protection from the neutrons and gamma rays accompanying fission and from the short lived radioactivity of the fission products can be obtained by massive concrete shields coupled with remotely controlled operation of the pile. The immense beta and gamma activity of the slugs of the metal undergoing fission presents one of the greater hazards in the operation of nuclear fission plants. Bale warns that the precautions required will probably be much greater than is realized. Radioactive dusts are peculiarly hazardous because of the wide distribution and the potential lethal effects of concentrations undetected by methods used in industry. If long lived fission products are contained in waste water, care must be taken that this radioactivity does not become a hazard to inhabitants down stream from the nuclear plant.

The energy derived by the fission of 1 pound of plutonium is of the same order as that derived from 1,000 tons of coal. Uranium in its natural form is not a good concentrated source of power. The predominance in normal uranium of isotope 238 means that the critical mass of ordinary uranium metal plus a neutron moderator will weigh many tons. However, Bale believes that it will be possible eventually to build an engine to utilize either U_{235} or plutonium, for which the fuel source for long continued production of energy will weigh only a few pounds. The primary difficulty in developing such engines in the near future lies in the hazards due to radioactivity to operating personnel or to accompanying passengers.

Bale poses a pertinent question as to whether if nuclear power is extensively used the general radioactivity of the earth will be increased to a dangerous degree and whether for this reason any large scale use of nuclear power should be prohibited. The local problems of themselves can be of serious magnitude, particularly in terms of stream or air pollution, say from an ordinary manufacturing plant. Strict supervision will be imperative for the protection of the whole community. Bale also stresses that any long term program involves the question of the amount of radiation of atomic nuclear origin to which the mass of humanity may be subjected above that due to cosmic rays and the normal radioactivity received from surroundings and absorbed internally with food. The present accepted tolerance for radium in the body, 0.1 microgram, is perhaps not more than ten times that which is actually accumulated in the course of ordinary existence. The question of radioactive tolerance requires a fundamental and painstaking research. Bale warns that caution should likewise be practiced in the use of radioactive elements for medical investigation to be used in tagging biologically important compounds, particularly in the availability of long lived carbon and hydrogen, which probably will be produced in liberal amounts in the chain reacting uranium pile.

Current Comment

A WORLD MEDICAL ASSOCIATION

At the end of September a conference met in London in which there were medical representatives of twenty-one European countries and ten countries outside Europe and at which the American Medical Association was represented by several observers appointed by the Board of Trustees. The meeting was held under the joint auspices of the British Medical Association, whose president, Sir Hugh Lett, presided, and the Association Professionelle Internationale des Médecins. The latter organization was an assemblage which was constituted before the war to give opportunity for interchange of medical information among the medical associations of the world regarding mutually interesting problems. The new conference agreed unanimously that an international organization of medical associations should be established and should limit itself to matters of medical practice and social medicine. The French, Belgian, Greek and Dutch delegates indicated that every country had its academies for promotion of medical science and that the immediate need was for an organization to defend the rights of the ordinary practitioner, especially in view of legislation passed in many countries. Dr. T. C. Routley, representing the Canadian Medical Association, indicated the desirability of an agency whereby the World Health Organization and UNESCO could make contacts with the medical associations of various countries. Ultimately the following platform was adopted for the new World Medical Association:

> To promote closer ties among the national medical organisations and among the doctors of the world by personal contact and all other means available in order to assist all peoples of the world to attain the highest possible level of health; to study the professional problems which confront the profession; to organise an exchange of information on matters of interest to the profession, and to establish relations with, and to present the views of the medical profession to, the World Health Organisation and the United Nations Educational, Scientific and Cultural Organisation.

The members of the World Medical Association will be international medical associations representative of the medical profession in the country concerned. A subscription was fixed at 10 Swiss centimes per member for each national group up to a total of 10,000 members and 5 centimes per member above the first 10,000, with a maximum for any member association of 1,500 Swiss francs. Each member association will have two seats on the governing body. A professional committee of nine was established to draft a constitution and by-laws in French and in English to be submitted to the next conference, to be held in Paris. There are to be two secretaries for the World Medical Association, one in London and one in Paris. The American Medical Association, by action of the Board of Trustees at its last meeting, became a member of this organization.

CHRONIC PHLEBITIS AND PHLEBOSCLEROSIS

Although acute phlebitis has been receiving increased attention because of the introduction of the new antithrombotic agents, chronic phlebitis and phlebosclerosis still are neglected subjects in investigation. This apparent lack of interest in the chronic venous diseases has resulted because the clinical symptoms produced by them often are not striking and characteristic and resemble in some respects those elicited by thrombophlebitis, venospasm and occluding arterial disease,[1] with which the chronic venous conditions are not infrequently confused. The belief seems to have grown that these diseases are relatively uncommon and unimportant. Various claims have been made as to the incidence of chronic phlebitis and phlebosclerosis, but agreement is lacking as to the relation between the two conditions. Paralleling the development of arteriosclerosis, local and regional phlebosclerosis not only may be elicited by prolonged increased intravascular hydrostatic pressure, such as in congestive circulatory disturbances, but also may follow as the end result of chronic phlebitis. Chronic phlebitic lesions are caused and maintained by bacterial, bacteriotoxic and bacterioallergic factors and are found in superficial as well as deep veins near and remote from foci of chronic infection (such as chronic tonsillitis, abscess of teeth and rheumatic infection[2]). Experimental studies on the production of chronic phlebitic lesions in the jugular veins of dogs subsequent to the development of infected teeth or the intravenous injection of anaerobic microorganisms have again called attention to these relations.[3] Although it is usually stated in textbooks that proliferative endophlebitis does not produce any clinical symptoms, more recent observations show that persistent foci of chronic phlebitis may be responsible for chronicity and recurrence in rheumatic infection. From a diagnostic point of view it is important that exposure to cold does not aggravate the symptoms of endophlebitis of the deep veins of the extremities, while it has that effect on the symptoms of obliterative arterial disease, functional and anatomic. It is, moreover, significant that patients with chronic endophlebitic venostenosis of the legs do not experience after the application of pressure bandages any pains on walking, whereas such manifestations appear in obliterative arterial disease.[2] While such latent endophlebitis of the deep veins of the leg may cause slight pain and tenderness through the calf on exercise or on the application of pressure at the pressure points[2] through the calf, the associated circulatory disturbances are important factors in the development of cutaneous manifestations (chronic edema, cyanosis, pruritus, eczema, ulcer, varicose veins). A rational treatment of these skin conditions is not a local one but depends on the removal of the causative chronic venous congestion through the reestablishment of adequate circulatory conditions in the affected extremity. Therapeutic measures to be effective in this respect must arrest and eradicate the endophlebitic process and alleviate the vascular spasm often accompanying this condition.[4]

1. Levin, P. M., and Bucy, P. C.: Proliferative Endophlebitis (Phlebosclerosis), Arch. Int. Med. **57**: 787 (April) 1936.
2. Meyer, O.: Latente Phlebitiden als Ursache von Arthritiden, Schweiz. med. Wchnschr. **75**: 639, 1945.
3. Hueper, W. C.: Experimental Jugular Phlebitis, Am. J. Clin. Path. **16**: 207, 1946.

THE RADIO PROGRAM "ON CALL"

On page 452 of this issue of THE JOURNAL appears an announcement of a transcribed radio program by the U. S. Treasury Department in the interests of bond purchases and the holding of U. S. savings bonds as a noninflation measure. This program is entitled "On Call" and is one of the stories featured by the Treasury Department. On these transcriptions the Treasury features the author and commentator Robert Waldrop, a musical score by Mark Warnow and announcements by Ed Herlihy, all well known figures in radio, plus famous radio actors. Dramatization, music and sound will be used to tell the story of several doctors in a small California town, "the knowledge, patience, care and selflessness of these men" showing them "as the prototypes of all our American family physicians." The announcement from the Treasury Department at a time when other government officers are demanding revolution in the nature of medical practice is interesting: "More than just an interesting radio program, however, 'On Call' strikes an optimistic note in the current period of pessimism and confusion, highlighting the thought that America and the American way of life are something of which to be proud and fostering the belief that tomorrow will see a stronger America, better Americans and through them a better world."

FOURTH OF JULY INJURIES

In this issue (page 442) appears a summary of injuries recorded as resulting from the celebration of the Fourth of July 1946 with fireworks. The survey represents a resumption of annual summaries of fireworks and explosive injuries prepared by the American Medical Association from 1937 to 1941 inclusive. Although the total number of injuries was small as compared with previous years, several states contributed far more than their normal complement of such accidents. These states may have an increasing number of unnecessary fireworks and explosive accidents in coming years unless they enact effective legislation. The loss of a life, a limb or an eye, or even a less serious injury from an avoidable cause such as a firecracker or aerial bomb, is a poor reward for celebrating the Independence Day holiday. Most accidents of this type can be successfully prevented by the adoption of satisfactory legislation in those states which do not now possess it.

4. McPheeters, H. O., and Alexander, H. A.: Lumbar Sympathetic Block and That Postphlebitic Leg, Minnesota Med. **29**: 43, 1946.

ORGANIZATION SECTION

Official Notes

THE ATLANTIC CITY SESSION

Application Blanks for Space in the Scientific Exhibit Now Available

At the Atlantic City session, June 9 to 13, 1947, the American Medical Association will observe its centennial anniversary. For almost half of those hundred years—since 1899—the Scientific Exhibit has been a feature of each annual session and has developed into a short course in graduate medical instruction.

Exhibits at the 1947 session will cover all phases of medicine. A certain amount of historical material will be included, but emphasis will be placed on the latest developments of medical science. Each section of the Scientific Assembly has appointed a representative to the Scientific Exhibit to advise and assist in the procurement and selection of material to be shown, and exhibits will be grouped according to the various specialties of medicine.

Application blanks for space are now available and may be procured from the Director, Scientific Exhibit, American Medical Association, 535 North Dearborn Street, Chicago 10.

RADIO TRIBUTE TO THE MEDICAL PROFESSION

The United States Treasury Department through the Savings Bonds Division announces a transcribed radio program in its "Treasury Salute" series of stories from "The American Notebook" during the week of November 23 which should be of interest to physicians. This chapter is entitled "On Call" and is a dramatization of the story of several doctors in a small California town. The advance publicity indicates that it is a tribute to the medical profession. The time of broadcasting will vary with locality. Inquiries can be made of local radio stations. The program can be identified by asking for disk 396.

Washington Letter

(From a Special Correspondent)

Oct. 21, 1946.

Board Appointed by President to Correlate Government Scientific Activities

President Truman has created a new board, to be known as the Presidential Research Board and headed by Reconversion Director John R. Steelman, to correlate government activities in all scientific fields. It will be, in effect, an administrative substitute for the National Science Foundation, the bill to establish which passed the Senate but died in the legislative jam in the closing of the last Congress. The twelve board members serving with Mr. Steelman will include cabinet officers and heads of various government agencies. Mr. Truman stated, in his executive order setting up the new agency, "National security and the development of the domestic economy depend on the extension of fundamental scientific knowledge and the application of basic principles to the development of new technics and processes. The nation has a vast reservoir of war accelerated technologic development which must be applied speedily and effectively to the problems of peace—stepping up productivity in both industry and agriculture, creation of new farm and factory products and advancement of medical science." The new board, said the President, lays the groundwork for a general plan to "insure that federal scientific research will promote the most effective allocation of research resources between the universities, research foundations, industry and the federal government."

Mental Hospital Officials Debate System of Commitments

Thomas Gillespie Walsh, chairman of the District of Columbia Commission on Mental Health, has defended the system now in force of committing the mentally ill to St. Elizabeths Hospital after "thorough board examination of each case." He pointed out that it is for a person's own protection that such an examination is conducted. Earlier Dr. Winfred Overholser, superintendent, had attacked the commitment system. A bill was introduced at the last session of Congress to speed up commitments by by-passing the Commission on Mental Health. The superintendent would be empowered to admit any one he judged in need of mental treatment, provided that person was adjudged to be mentally competent to apply.

Change in System of Reporting Venereal Disease Rate

The U. S. Army has changed its system of reporting venereal disease rates, so that henceforth the actual percentage of soldiers hospitalized during the preceding week will be given. This was done because of the misleading impression resulting from the former system. Since the end of the war the figures have been given in terms of annual rates per thousand, which at times have run as high as 250 for occupation troops in Germany. Some persons have construed from this that one out of every four American soldiers in Europe had syphilis or gonorrhea. Soldiers in Germany, nevertheless, have a rate twice as high as the army as a whole. Figures for the last week: all overseas theaters 0.3 per cent, United States 0.1 per cent, European theater 0.4 per cent, Western Pacific 0.2 per cent.

Order of Orange Nassau Awarded by the Netherlands to President's Physician

The Netherlands government has awarded to Major Gen. Wallace Graham, personal physician to President Truman, the Order of Orange Nassau with Swords, one of its highest honors. The award was presented by Major Gen. François Daubenton, director general of medical service, Royal Netherlands army, on behalf of Queen Wilhelmina, at the residence of the Netherlands ambassador. It was given in "recognition of exceptional courage and humanitarian feelings demonstrated during operations in Holland in 1944," when Major General Graham was chief of the surgical section of the 24th Evacuation Hospital with the 101st and 82d Airborne Forces.

Medical Men Among 10 Civilian Scientists Named to Navy Research Committee

The U. S. Navy has appointed ten civilian scientists as members of a civilian research advisory committee, including Dr. William Sharp McCann, director of the Institute of Medicine, Rochester (N. Y.) University, former Naval Medical Corps captain, and Dr. Detlev W. Bronk, National Academy of Sciences and coordinator of research for the Army Air Forces medical section during the war. Also on the committee are the two brother scientists Drs. Arthur H. and Karl T. Compton, both atomic experts.

Infantile Paralysis Epidemic Receding Throughout the Country

The U. S. Public Health Service reports that the epidemic of infantile paralysis claimed 1,042 more victims last week, bringing the total for the year up to 20,681, but that while the total is 1,000 past the total for 1944, the worst year for poliomyelitis since 1916, the number of cases throughout the United States is dropping.

Amputees to Get Automobiles at Detroit

Representative Hebert, Democrat of Louisiana, has reported that the Veterans Administration has approved a plan under which amputee war veterans can accept delivery at Detroit of the specially equipped automobiles voted to them by Congress.

Council on Medical Service and the Council on Industrial Health

The following statement is presented in accordance with instructions received at the San Francisco Session of the House of Delegates.

THOMAS A. HENDRICKS, *Secretary*, COUNCIL ON MEDICAL SERVICE

C. M. PETERSON, M.D., *Secretary*, COUNCIL ON INDUSTRIAL HEALTH

THE NATIONAL BITUMINOUS COAL MINE WAGE AGREEMENT

The medical significance of the National Bituminous Coal Mine Wage Agreement was well recognized at the San Francisco sessions of the House of Delegates. Two resolutions bearing directly on the wage agreement were introduced and referred to the Council on Medical Service for appropriate action. The Council on Industrial Health, because of its equal concern and because of previous conferences with officials in the Bureau of Mines, was invited to participate.

SAN FRANCISCO CONFERENCE

A preliminary meeting held in San Francisco July 4, 1946, attended by the sponsors of the resolutions and by others, provided an opportunity for a general discussion of the medical implications in the wage agreement. It was agreed at this time that another conference be conducted at an early date in the coal mines area and with affected physicians in these localities in attendance.

WILLIAMSON, W. VA., CONFERENCES

The first of two meetings held in Williamson, W. Va., was conducted on Aug. 1, 1946 by the physicians practicing in the coal fields of West Virginia, Kentucky, Tennessee, Alabama and Pennsylvania. Because of predominant regional interest, the "Association of Mine Physicians" was organized, the by-laws of which are as follows:

ARTICLE I. NAME; HEADQUARTERS

SEC. 1.—The name of this organization shall be Association of Mine Physicians.

SEC. 2.—Unless otherwise officially designated the headquarters of the association shall be in Williamson, W. Va.

ARTICLE II. PURPOSE

SEC. 1.—The purpose of this association shall be to provide a good quality of industrial health and medical care.

ARTICLE III. COMPONENT COUNTY UNITS

SEC. 1.—Physicians in each county who are engaged in mine practice shall constitute a county unit, and each of such county units shall be a component unit of this association.

SEC. 2.—There shall be maintained in each county unit a Committee on Mine Practice composed of not more than three physicians who are engaged in mine practice, this committee to be selected by the membership of the county unit.

SEC. 3.—The duty of the county committee shall be to provide professional advice, counsel and assistance to any member of the county unit in keeping with accepted ethical and scientific standards of the by-laws of the association.

ARTICLE IV. MEMBERSHIP

SEC. 1.—Membership shall consist of two classes, active and associate. Both classes shall be limited to members in good standing of their county medical societies.

SEC. 2.—Active members shall be limited to those physicians engaged in mine practice.

SEC. 3.—Associate members shall be limited to those physicians who desire to participate in the association who are found eligible by the Executive Council.

ARTICLE V. CONFERENCE OF COUNTY CHAIRMEN

SEC. 1.—The Conference of County Chairmen shall be the legislative and business body of this association and shall consist of (1) Chairmen of Committees on Mine Practice of the various county units, (2) members of the Executive Council, and (3) ex officio the president and the secretary-treasurer. There shall be held a Conference of County Chairmen at each annual session of the association, and a special conference may be called by the president at any time for any special purpose. The Conference of County Chairmen shall elect all officers of the association, including members of the Executive Council.

SEC. 2.—On call of the president for any regular or special meeting the secretary-treasurer shall give due notice to each county chairman and members of the Executive Council.

SEC. 3.—A majority of registered accredited members shall constitute a quorum.

ARTICLE VI. EXECUTIVE COUNCIL

SEC. 1.—The Executive Council shall consist of two members from each of the states participating, elected annually by the Conference of County Chairmen. The council shall act in an advisory capacity to the president and shall be the executive and finance committee of the association.

ARTICLE VII. SESSIONS AND MEETINGS

SEC. 1.—The association shall hold an annual session open only to registered members and invited guests, the date and place to be decided by the president and the Executive Council.

ARTICLE VIII. OFFICERS

SEC. 1.—The officers of this association shall be a president, a vice president and a secretary-treasurer.

SEC. 2.—Officers elected in 1946 shall serve for the remaining part of the year and on through the calendar year of 1947; thereafter officers elected in any year shall serve through the next succeeding calendar year.

SEC. 3.—The president shall be the head of the association and shall preside at the annual session of the association and at any regular or special Conference of County Chairmen and at any meeting of the Executive Council. He shall appoint the members of any special committee required for any purpose.

SEC. 4.—The vice president shall assist the president in the discharge of his duties, and in case of death, resignation or incapacity of the president the vice president shall succeed him.

SEC. 5.—The secretary-treasurer shall keep a record of all transactions of the association and shall be the custodian of its funds. He shall pay out money from the treasury only on the written consent of the president. Once a year he shall submit to the Conference of County Chairmen a financial statement including a record of all receipts and disbursements. At the expense of the association, he shall file with the president a bond for the faithful performance of his duties. He shall employ such clerical help as he may need in carrying out the duties of his office.

ARTICLE IX. OPERATING EXPENSES

SEC. 1.—Funds for operating expenses shall be raised by an annual per capita assessment of dues against members of the association. Dues in the amount of $10 shall be paid by each member on or before October 1 of each year. Dues shall be payable to the secretary-treasurer.

ARTICLE X. AMENDMENTS

SEC. 1.—A Conference of County Chairmen may amend any article of these by-laws by a two-thirds vote of those present at any Conference of County Chairmen.

Among other actions taken by this association, it was agreed that a committee be appointed to meet with the executive committees of the Council on Medical Service, the Council on Industrial Health and the Board of Trustees of the American Medical Association as occasion demands, to determine medical policy and to undertake such additional conferences with government, with management and with labor as would appear necessary.

On Aug. 2, 1946 the meeting authorized by the preliminary conference at San Francisco was held in the Mountaineer Hotel in Williamson, W. Va., and was attended by representatives of the Council on Medical Service, the Council on Industrial Health, the Association of Mine Physicians and officers of state and county medical societies. This meeting emphasized again the medical importance of the Wage Agreement under three major headings:

1. Medical care and welfare. Attention was again called to the two distinct funds created by the Coal Mine Wage Agreement.

(*a*) The welfare and retirement fund, created by a 5 per cent per ton impost on every ton of coal produced, is to be administered by three trustees, one appointed by the Coal Administrator, one by the union and one to be agreed on by both the Coal Administrator and John Lewis.

(*b*) The Medical and Hospital fund will be administered entirely by three trustees appointed by the president of the Mine Workers Union and will be built up by check off from miners' pay.

Heretofore most of the medical services in the bituminous coal industry have been rendered by physicians under direct contract with the coal operators. Hereafter arrangements for such services will be in the hands of the union.

The fact that three and one-half million dollars had accumulated in the welfare and retirement fund in six weeks emphasized its economic significance.

2. The survey by the Navy. Reports were heard regarding the fact finding survey conducted by personnel assigned to this service by the Bureau of Medicine and Surgery, U. S. Navy. These surveys, as indicated in the wage agreement, were expected to collect and publish the facts about medical and hospital facilities, housing, recreation and other conditions likely to affect the health and welfare of the mine workers. It was clearly indicated that no final disposition would take place until this survey had been completed.

3. Industrial health and safety.

From the industrial health point of view, several considerations stand out:

1. Health and welfare will be important factors in all future collective bargaining.

2. Industrial health in its modern sense, emphasizing good emergency and follow-up care of disabilities, industrial hygiene, environmental sanitation and preventive medicine, is largely nonexistent in the bituminous coal operations. This fact should be brought clearly to the attention of the surveying group.

3. The medical practitioners involved are not "industrial physicians." For the most part they are general practitioners or consulting specialists practicing in mining communities. In any plans for better medical service to the mining population, these physicians should be encouraged to broaden their perspective and to assume the initiative in the development of industrial health programs.

4. The coal wage agreement will have considerable effect on workmen's compensation procedure and coverage. The principle of election is effectively challenged and the scale of benefits is almost certain to be liberalized.

5. In respect to the funds set up under the National Bituminous Coal Mine Wage Agreement, it should be noted that the Council on Industrial Health, the Board of Trustees and the House of Delegates of the American Medical Association have approved the principle of participation in and support of all industrial health activity jointly by management and labor, and that the scope, technic and character of support of medical and health services for workers should be developed and approved as a composite plan based on collaboration between management, labor and medicine.

Because of the acute nature of many medical relations in the mine areas, it was strongly urged that a conference be held as promptly as possible in Washington with the Federal Coal Administrator and his associates.

WASHINGTON CONFERENCE

A conference was held in Washington, D. C., Aug. 8, 1946 with the principal officers in the Federal Coal Mine Administration. Impressions gained from this meeting, as reported by Dr. Walter B. Martin, Norfolk, Va., member of the Council on Medical Service and chairman of these conferences, follow:

Admiral Moreel and Admiral Boone were most cordial and expressed a desire to work out the problem of medical care for miners on a sound basis and in accordance with the best medical principles.

In reference to the A Fund (Welfare and Retirement Fund), the trustees have not been appointed and probably will not be until the owners recapture their property. Meanwhile, the fund will accumulate in charge of a custodian.

In reference to the B Fund (Health and Related Services), nothing definite has yet been done. The trustees have not been appointed. At present, under government operation, the mine manager, appointed by the administrator, is authorized to carry on all activities of the mine. This manager is usually the owner or his authorized agent. Any doctor or doctors who wish to negotiate a new contract can do so with this manager, if they already have a contract with the owner. If their contract is with the miners, of course, they can negotiate with them. This will also apply to hospital contracts, where, on account of increased costs, the contract price for hospital service should be raised.

There is little danger of any radical or sudden change in the present health service setup, for several reasons. Categorically, they are as follows:

General policies will not be laid down until the trustees for the B Fund are appointed, and probably not until Admiral Boone's survey report is completed.

It is not thought that the B Fund as now set up will be sufficient to give an overall service, since in the past the contributions of the miners from their wages has been supplemented by the mine owners.

It will be necessary for mine owners to agree to transfer property rights in hospital clinics and the like now operating.

Personnel in sufficient numbers to make widespread replacements will be difficult to find.

Expansion of physical facilities on any general scale will be a slow process.

The Mine Workers Union does not have an organization at present capable of administering any large health and related service program.

It is not known at what level the B Fund will be administered. It remains to be determined whether it will be directed by the headquarters of the Mine Workers Union or by the local or district union.

It is not probable that there will be a rapid spread of this plan of financing medical service to other large unions. It is brought out that the steel, automobile, rubber workers and others are concentrated in larger communities where reasonably good medical facilities exist, as contrasted to the locations of mine workers in more or less isolated areas. The lumber workers are in somewhat the same situation as the mine workers.

The survey may prove to be very valuable. Admiral Boone is endeavoring to develop a factual report that will give an unbiased picture of the medical service in the soft coal industry.

SUMMARY

The course of events associated with the National Bituminous Coal Mine Wage Agreement is being observed with great interest by the Council on Medical Service and the Council on Industrial Health. Further developments will be reported promptly.

Coming Medical Meetings

American Medical Association House of Delegates Supplemental Session, Chicago, Dec. 9-11. Dr. George F. Lull, 535 N. Dearborn St., Chicago 10, Secretary.

Conference of State Secretaries and Editors, Chicago, Dec. 7-8. Dr. George F. Lull, 535 N. Dearborn St., Chicago 10, Secretary.

American Academy of Allergy, New York, Nov. 25-27. Dr. Karl D. Figley, 316 Michigan St., Toledo 2, Ohio, Secretary.

American Academy of Dermatology and Syphilology, Cleveland, Dec. 7-12. Dr. Earl D. Osborne, 471 Delaware Ave., Buffalo, N. Y., Secretary.

American Academy of Pediatrics, Pittsburgh, Nov. 13-16. Dr. C. G. Grulee, 636 Church St., Evanston, Ill., Secretary.

American Association of Railway Surgeons, Chicago, Oct. 29-31. Dr. Raymond B. Kepner, 547 West Jackson Blvd., Chicago 6, Secretary.

American College of Surgeons, Cleveland, Dec. 16-20. Dr. Dallas B. Phemister, 40 E. Erie St., Chicago 11, Secretary.

American Otorhinologic Society for the Advancement of Plastic and Reconstructive Surgery, New York, Nov. 14. Dr. Norman N. Smith, 291 Whitney Ave., New Haven 1, Conn., Secretary.

American Public Health Association, Cleveland, Nov. 12-14. Dr. R. M. Atwater, 1790 Broadway, New York 19, Executive Secretary.

American Society of Anesthesiologists, New York, Dec. 12. Dr. Curtiss B. Hickcox, 745 Fifth Ave., Room 1503, New York, Secretary.

Association of American Medical Colleges, Edgewater Park, Miss., Oct. 28-30. Dr. Fred C. Zapffe, 5 South Wabash Ave., Chicago, Secretary.

Indiana State Medical Association, Indianapolis, Oct. 29-31. Mr. Ray E. Smith, 23 East Ohio St., Indianapolis 4, Secretary.

National Society for the Prevention of Blindness, New York, Nov. 25-27. Mrs. Eleanor Brown Merrill, 1790 Broadway, New York 19, Executive Director.

New England Postgraduate Assembly, Boston, Oct. 30-31. Dr. Leroy E. Parkins, 8 Fenway, Boston 15, Chairman Executive Committee.

Oklahoma City Clinical Society, Oklahoma City, Oct. 28-31. Mrs. M. R. Waller, 512 Medical Arts Bldg., Oklahoma City, Executive Secretary.

Omaha Mid-West Clinical Society, Omaha, Oct. 28-Nov. 1. Dr. Roy W. Fouts, 1036 Medical Arts Bldg., Omaha 2, Secretary.

Post Graduate Medical Assembly of South Texas, Houston, Dec. 3-5. Dr. M. B. Stokes, 229 Medical Arts Bldg., Houston, Secretary.

Puerto Rico, Medical Association of, Santurce, Dec. 13-15. Dr. Rafael A. Vilar, P. O. Box 3866, Santurce, Secretary.

Radiological Society of North America, Chicago, Dec. 1-6. Dr. Donald S. Childs, 607 Medical Arts Bldg., Syracuse 2, N. Y., Secretary.

Society of Surgeons of New Jersey, Newark, Nov. 20. Dr. Walter B. Mount, 21 Plymouth St., Montclair, Secretary.

Southern Medical Association, Miami, Fla., Nov. 4-7. Mr. C. P. Loranz, Empire Bldg., Birmingham 3, Ala., Secretary.

Southern Surgical Association, Hot Springs, Va., Dec. 10-12. Dr. Alfred Blalock, Johns Hopkins Hospital, Baltimore 5, Secretary.

Western Surgical Association, Memphis, Tenn., Dec. 5-7. Dr. Warren H. Cole, 1853 W. Polk St., Chicago 12, Secretary.

GOVERNMENT SERVICES

ARMY

ARMY AWARDS AND COMMENDATIONS

Colonel Leonard George Rowntree

The Medal for Merit was recently awarded to Dr. Leonard George Rowntree of Philadelphia. The citation signed by the President stated that "Dr. Rowntree as chief of the medical division of the Selective Service System from Dec. 18, 1940 to June 16, 1945 anticipated, met and solved, with never failing diligence and professional proficiency, the ever changing medical problems which arose in the administration of the Selective Service System. Transient manpower requirements of the services and of the production front called for frequent review of physical standards of acceptance, and in every such reappraisement the patient tactfulness and sound judgment he displayed increased his usefulness as a wise counselor to the director of Selective Service and enhanced his value in the councils of those charged with the successful prosecution of the war. He established a medical statistical service within the system, fostered a medical survey program, sponsored confidence in his professional confrères, promoted various undertakings in the interest of the public health and in every way rendered capable and efficient service. He gave highly commendable guidance, direction and support to the 50,000 members of the medical and dental professions who assisted 6,443 local boards in the performance of their Selective Service responsibilities. He merits the gratitude of the nation for his immense contributions to the mobilization of its manpower." Dr. Rowntree graduated from the University of Western Ontario Medical School, London, Ont., and entered the service in August 1940.

Major Richard L. Etter

The Commendation Ribbon was recently awarded to Major Richard L. Etter of Houston, Texas. The citation read, in part, "Major Etter aggressively, with thoroughness, excellent judgment and leadership, achieved distinction by the superior manner in which he maintained the medical services of the IX Corps from May 16 to Aug. 8, 1946." Major Gen. Charles W. Ryder, the corps commander, in making the award at Sendai, Japan, further stated that "his services during this period are especially commendable in that he assumed his position with very little orientation at the start of the season in which many important insect borne diseases are prevalent in this area. Through his untiring efforts inception of these diseases by the personnel of the IX Corps was kept to the barest minimum. His alertness and tireless devotion to duty reflect great credit on himself and are in keeping with the highest traditions of the military service."

Major Etter was also awarded the Bronze Star for meritorious achievement in connection with military operations against the enemy in Germany from April 2 to May 9, 1945 (THE JOURNAL, May 18, 1946, p. 223).

Lieutenant Colonel Robert L. Hamilton

Lieut. Col. Robert L. Hamilton of Marysville, Calif., was recently awarded the Purple Heart and the army Commendation Ribbon. Lieutenant Colonel Hamilton received multiple schrapnel wounds due to German shell fire while on duty in the field on Mount DeFensia, near Cassino, Italy, in December 1943. The citation for the Commendation Ribbon stated that, "having served with ASF Personnel Replacement Depot from Jan. 6, 1945 to date, Lieutenant Colonel Hamilton is hereby cited for exceptionally meritorious service to this command as depot surgeon. He was responsible for the health, care and medical processing of thousands of replacements passing throughout the organization, and the duties involved in carrying out his mission were discharged with rare distinction. His tireless efforts to perfect the medical service within the depot, his outstanding initiative and integrity and his unselfish loyalty inspired his subordinates to an extraordinarily high standard of performance. Without stint of time and energy, he displayed the most admirable soldierly qualities and the highest degree of professional excellence and contributed immeasurably to the success of his organization in accomplishing a vital mission. His administrative skill enabled the medical section to achieve outstanding results with limited facilities and an inadequate number of trained personnel. The distinguished service rendered by Lieutenant Colonel Hamilton reflects great credit on him and on the military service." Dr. Hamilton graduated from the University of Tennessee College of Medicine, Memphis, and entered the service Dec. 3, 1941.

Lieutenant Colonel Louis K. Mantell

The legion of merit was recently awarded to Lieut. Col. Louis K. Mantell, M. C., U. S. Army, "for exceptionally meritorious conduct in the performance of outstanding services while serving as assistant surgeon for a Marine landing force corps during the preparation for, and the conduct of the operation on, Iwo Jima, Volcano Islands, from Feb. 19 to March 10, 1945." In giving a more detailed account of his achievements, the citation stated that "Lieutenant Colonel Mantell's initiative, determination and leadership were invaluable in converting what might have been an overwhelming casualty load into a continuous, smoothly functioning, completely integrated and coordinated operation in which the wounded received the maximum medical care commensurate with the military situation. He maintained close personal contact with medical installations in forward areas, which were frequently under fire, and as a result was better able to coordinate the requirements of the medical service along the entire chain of evacuation. During the night of February 26-27, while the corps command post was under heavy enemy artillery fire, Lieutenant Colonel Mantell exhibited coolness and determination of purpose when, with complete disregard for his own personal safety, he circulated through the command post, rendering emergency treatment and directing the care and evacuation of the resulting casualties. On March 1 he entered an area which was immediately brought under enemy artillery and rocket fire and, unmindful of the personal hazard involved, directed the care and evacuation of the ensuing casualties. His outstanding professional ability, sound judgment and thorough knowledge of his duties materially helped to insure the capture of Iwo Jima and were in keeping with the highest traditions of the United States Military Service."

Colonel Roger G. Prentiss Jr.

The Legion of Merit was recently awarded to Col. Roger G. Prentiss Jr., Washington, D. C., who, the citation reads, "performed exceptionally meritorious and outstanding services as director of the research and development division and subsequently as chairman of the Army Medical Research and Development Board in the Office of the Surgeon General from December 1941 to April 1946. His executive ability and sound judgment . . . have been of great value to the Surgeon General."

Colonel Dwight M. Kuhns

The Surgeon General of the Army, Major Gen. Norman T. Kirk, recently awarded the Army Commendation Ribbon to Col. Dwight M. Kuhns, M. C., of Louisville, Ky., for his outstanding contribution as commanding officer, Fourth Service Command Laboratory, Fort McPherson, Georgia, from Dec. 7, 1941 to Oct. 31, 1943. Dr. Kuhns graduated from the University of Louisville School of Medicine in 1929 and entered the service July 1, 1930.

PHYSICIANS SEPARATED FROM SERVICE

ARMY MEDICAL CORPS OFFICERS RECOMMENDED FOR/OR RELIEVED FROM ACTIVE DUTY

Alabama

Bell, John M., Jr.....Mobile
Bender, Theodore J., Jr.....Mobile
Blue, Denzil R.....Hurtsboro
Caton, William L. Jr.....Mobile
Comer, John F.....Birmingham
Garrett, Joseph M.....Bay Minette
Hudson, Percy D.....Opelika
Lee, Joseph M.....Leeds
Rodgers, Samuel U.....Anniston
Slaughter, John M.....Millerville
Stanton, Allie M.....Sylacauga
Wright, Duward O.....Fort Payne

Arkansas

Boswell, Walter L.....Clarendon
Brewer, Howell.....Hot Springs
Broach, Rolland F.....W. Helena
Browning, Louis E.....Little Rock
Hamilton, Wilburn M.....Russellville
Holmes, Harlan C.....Little Rock
King, Leeman H.....Hot Springs
Nolan, Fred W.....Rison
Ritchey, Lloyd F.....Camden
Sims, Walter L. Jr.....Harrison
Stanfield, Wayne.....Booneville
Van Duyn, Thomas S.....Stuttgart

California

Barrette, Pierce C.....San Jose
Barshop, Nathan.....Los Angeles
Berlin, Irving N.....Los Angeles
Black, William A.....Piedmont
Blodget, Rush M., Jr.....La Canada
Borun, Elmer R.....Beverly Hills
Boyer, Louis B.....San Francisco
Braslow, Lawrence.....Los Angeles
Buller, Wilmer.....Shafter
Chatton, Milton J.....Fresno
Cloninger, Ralph C.....Inglewood
Curtis, Don McC.....Los Angeles
Daniele, Italo W.....N. Hollywood
Deeb, Paul H.....Los Angeles
Devereux, Edwin E.....Berkeley
Diamond, Abraham J.....Los Angeles
Drury, Robert B.....Los Angeles
Dusendschon, Raymond C.....Anderson
Earwood, Edgar R.....Los Angeles
Elkins, Oscar M.....Ocean Park
Fahlen, Charles C.....San Francisco
Feinfield, Arthur.....Berkeley
Fernald, John M.....Los Angeles
Forde, Douglas L.....Los Angeles
Foree, Lynn.....Oakland
Foster, Dale G.....Hollywood
Freuder, Edgar.....San Francisco
Gale, Lester S.....Stockton
Gilliland, Frank I.....Fresno
Goddard, Andrew B.....Mill Valley
Gooel, Elmer F.....Los Angeles
Graham, Walter C.....Santa Barbara
Grishaw, William H.....Los Angeles
Guttentag, Otto E.....San Francisco
Haig, Pierre V.....Los Angeles
Hales, Milton R.....Pasadena
Hall, Cameron B.....San Francisco
Hamilton, Robert L.....Marysville
Hansen, Frederick M.....San Francisco
Hjelle, Lester C.....Sacramento
Horner, Jack C.....Los Angeles
Hunnicutt, Leland G.....Pasadena
Huwe, Eugene L.....Richmond
Jacob, Harry H.....Long Beach
Jacobs, Melville L.....Beverly Hills
Johnson, Richard L.....Arbuckle
Karfiol, George J.....San Francisco
Kayser, Frederick W.....San Jose
Keller, Paul K.....San Francisco
Keller, Thomas B.....Glendale
Kelpien, William H.....Montebello
Lagerquist, Howard D.....Balboa Island
Landegger, George P.....Los Angeles

California—Continued

Loveall, George R.....San Diego
Luck, James V.....Los Angeles
McLeod, James A.....Los Angeles
Manning, John B. Jr.....Santa Barbara
Marlow, Arthur A.....La Jolla
Meens, David F.....Los Angeles
Morehead, Marvin B.....San Jose
Morgan, Herbert R.....Bell
Morrison, Alan F.....Oakdale
Muff, Anthony L.....Arlington
Naess, Erling W.....Pasadena
Paxton, Frank F.....Glendale
Perkins, William A.....Berkeley
Pflueger, Otto H.....San Francisco
Philip, John R.....Glendale
Prescott, Walton.....Oakland
Pyle, Calvin A.....Glendale
Redfern, Wendell M.....Glendale
Reider, Norman.....Los Angeles
Rickenberg, Robert E.....Los Angeles
Ruth, Edward C.....Hollywood
Sander, Louis W.....St. Helena
Schatz, Walter R.....Death Valley
Schwartz, Ernest.....San Francisco
Studebaker, Leland F.....Santa Barbara
Styre, Benjamin F.....Bakersfield
Sugarman, Harold.....San Francisco
Sullivan, Dennis W.....San Francisco
Sulmeyer, George.....Los Angeles
Wade, Arthur B.....Santa Ana
Zapelli, Adolph J.....San Jose
Zinn, Willard J.....Fullerton

Colorado

Arndt, Donald A.....Idaho Springs
Brundige, Ralph E.....Denver
Fowler, William G.....Denver
Glassburn, Alba R., Jr.....Craig
Grossman, Bernard E.....Denver
Gwinn, Lawrence M.....Colorado Springs
James, Albert E.....Denver
Katz, George.....Denver
Stewart, Magnus J.....Loveland
Stuck, Ralph M.....Denver
Zuckerman, Hyman S.....Denver

Connecticut

Allen, John C.....New Haven
Becker, Joseph.....New London
Berne, Eric L.....Westport
Carter, George H.....New Canaan
Cerrone, Luke J.....New Haven
D'Alton, Clarence J.....New Milford
Diorio, John D.....Waterbury
Jones, Martling B.....Norwalk
Kennedy, William C.....New Haven
Maiorano, Joseph F. Jr.....West Haven
Murphy, John J.....Bridgeport
Owens, Andrew P.....Bridgeport
Perakos, George P.....New Britain
Pick, Walter.....Windham
Pike, Maurice M.....W. Hartford
Riccio, Joseph S.....Hamden
Rowe, John J.....New London
Sherwood, Paul M.....Hartford
Spinner, Samuel.....New Haven
Tynan, James G.....Torrington
Zagraniski, Raymond J.....Jewett City

District of Columbia

Alpert, Louis K.....Washington
Coale, Robert Norwood.....Washington
Cruvant, Bernard A.....Washington
Dean, Francis D.....Washington
Fairchild, John P.....Washington
Finck, Harold Y.....Washington
Hall, Durward G.....Washington
Hodge, David F.....Washington
Mincosky, Abraham B.....Washington
Minthorn, Martin L.....Washington
Morgan, Iver I.....Washington

Florida

Baker, Collin F. Jr.....Tampa
Bixler, John C. T. J.....Live Oak
Campbell, Frank C.....N. Miami
Chapman, William H.....Jacksonville
Edwards, Robert V.....Coral Gables
Emerson, George O., Jr.....Tavares
Ferguson, Robert W.....Wauchula
Morrow, Matthew E. Jr.....Jacksonville
Sasso, Robert M.....Lake City

Georgia

Austin, George J. Jr.....Moultrie
Barksdale, Cobb R., Jr.....Blakely
Barnes, Walter P., Jr.....Graves
Bird, Cornelius A.....Valdosta
Black, Clarence E. Jr.....Macon
Camp, Raymond S.....Fairborn
Cochran, Edwin D.....Waycross
Collins, Braswell E.....Waycross
Davis, Edwin B., Jr.....Byromville
Ellenberg, Luke L.....Atlanta
Estes, Marion M.....Atlanta
Fokes, Robert E., Jr.....Montezuma
Holscher, Edward C.....Atlanta
Kiser, William H., Jr.....Atlanta
McGoogan, Malcolm T. Jr.....Fitzgerald
Moore, Cliff Jr.....Lindale
Pinkston, Alexander G. Jr.....Ludowici
Trulock, Albert S. Jr.....Waycrosse

Illinois

Adams, John R.....Wilmette
Adler, Edmund R.....Chicago
Appel, Harry R.....Chicago
Appel, Simon.....Chicago
Arends, G. William.....Melvin
Atkinson, Robert L.....Bloomington
Balikov, Harold.....Chicago
Barrett, Howard T.....Chicago
Barry, George R.....Chicago
Baysinger, Verlin G.....Pekin
Bernstein, Elmer I.....Chicago
Birk, Carl P.....Decatur
Black, Sidney.....Chicago
Blank, Harvey.....Chicago
Boomer, George L.....Carbondale
Bosworth, Wesley F.....Elgin
Bowman, John A.....Abingdon
Brislen, Andrew J.....Chicago
Buehrig, Milton W.....Carlinville
Carrington, Howard W.....Chicago
Chenault, Harvey.....Chicago
Christy, Harold W.....Chicago
Compton, Joseph W.....East St. Louis
Cook, George A.....Silvis
Crage, Michael J.....Chicago
Currier, Richard K.....Elmwood
DePeyster, Frederic A.....Winnetka
Diamond, Jerome H.....Chicago
Dickerman, Henry S. Jr.....Springfield
DuBois, Paul G.....Chicago
Earle, Laurence B.....Oak Park
Eisele, Adrian S.....E. St. Louis
Ellis, Joseph G.....Georgetown
Feldman, Fred F.....Chicago
Feldman, Paul E.....Chicago
Felt, Joseph G.....Chicago
Ferguson, James H.....Chicago
Fershing, Jennings.....Chicago
Filip, Joseph H.....Chicago
Friedman, Harry R.....Chicago
Friedman, Leonard D.....Chicago
Gallo, William C.....Downey
Ganser, Howard I.....Chicago
Gebuhr, Carl A.....Evanston
Georgacakis, George S.....Berwyn
Gernon, William.....Kankakee
Gibbons, James E.....Danville
Gleichman, Theodore K.....Moline
Golinkin, George B., Jr.....Chicago
Goodman, Ephraim F.....Chicago
Goran, Joseph R.....Chicago

PHYSICIANS SEPARATED FROM SERVICE

Illinois—Continued

Greenberg, Ralph J.....Chicago
Grodins, Fred S.....Chicago
Grout, John L.....Riverside
Hagen, Paul K.....Taylorville
Hausmann, Edwin G.....Aurora
Herstein, David.....Chicago
Hetman, Mitchell J.....Chicago
Hood, Jo R.....Cicero
Hoover, Seldon R.....Quincy
Howard, Wayne C.....Chicago
Hruska, Edward J.....Cicero
Kraus, Alvin R.....Chicago
Lawler, Frank C.....Chicago
Leahy, Thomas E.....Chicago
Lippert, Jerome H.....Chicago
Lis, Edward F.....Chicago
Lobraico, Rocco V., Jr.....Chicago
Malin, Henry V.....Chicago
Mills, Girard Y.....Chicago
Mok, Wa To.....Chicago
Molengraft, Cornelius J.....Chicago
Noskin, Eugene A.....Chicago
O'Hanley, Allan F.....Chicago
O'Malley, Virginia L.....Chicago
Palow, Alvin A.....Kankakee
Pitcher, Wayne H.....Chicago
Reingold, Herbert J.....Chicago
Robbins, Lewis L.....Chicago
Rome, Sol.....Chicago
Sachs, Mandel J.....Chicago
Sammis, Anthony C.....Eagarville
Schick, Armin F.....Chicago
Schiff, Abe L.....Oak Park
Shaw, William B.....Chicago
Shinall, Harold L.....Belleville
Spiro, Erich.....Troy
Starkman, Nathan M.....Chicago
Steinberg, Menahem.....Chicago
Stewart, Burton L.....Springfield
Strohl, Everett L.....Chicago
Szilagyi, Miklos J.....Chicago
Vermeulen, Cornelius W.....Chicago
Warnick, Edward G.....Chicago
Warsaw, Philip.....Chicago
Weissman, Irving.....Chicago
Whitacre, George M.....Chicago
Wishnick, Seymour D.....Chicago
Zidek, Emil R.....Chicago

Indiana

Alward, John H.....South Bend
Armington, Robert L.....Anderson
Barton, Robert F.....Ligonier
Bennett, J. B.....Warren
Botkin, Charles T.....Indianapolis
Brown, Stewart D.....Indianapolis
Caton, Joseph R.....South Bend
DesJean, Paul A.....Indianapolis
Earl, Max M.....Muncie
Farr, James C.....Paragon
Hampshire, Donald R.....Indianapolis
Harrison, Byron N.....Chandler
Hart, William D.....Anderson
Merrill, Joseph G.....Terre Haute
Miller, Jack B.....Indianapolis
Nill, John H.....Fort Wayne
Rieth, Paul L.....Columbus
Stout, Harry T. Jr.....Crawfordsville
Strickland, William B.....New Albany

Iowa

Anderson, DeWayne C.....Stanhope
Anderson, Edward E.....Dubuque
Ashby, John D.....Cedar Rapids
Beebe, John R.....Wever
Brown, William J. Jr.....Cedar Rapids
Crowell, Edwin A. Jr.....Iowa City
Dessel, Bertram H.....Ossian
Gray, John F., Jr.....Melcher
Hartung, Walter.....Davenport
Henningsen, Artemus B.....Clinton
Hoffmann, Robert W.....Des Moines
Houston, Vincent T.....Dunlap
Krakauer, Max.....Davenport

Kentucky

Aaron, Louis Edward....Russell Springs
Asher, George M. Jr.....Pineville
Bishop, Harry A.....Louisville
Cole, Julian B.....Harlan City
Connelly, Edward W.....Ashland
Crowell, William C. Jr.....Maysville
Dyer, Robert S.....Louisville
Furnish, William F.....Louisville
Hargett, Herbert P.....Maysville
Harvey, John.....Lexington
Herget, John E.....Covington
Hurt, Marion W.....Mayfield
Lyon, Wendell V.....Louisville
Poweleit, Alvin C.....Newport
Ruark, Rudy E.....Union Town

Louisiana

Abramson, John H.....Shreveport
Biggs, Thomas G., Jr....Lake Providence
Carroll, Andrew J. Jr.....New Orleans
Cerniglia, Albert S.....Delhi
Davis, Paul M., Jr.....Ruston
Fisher, Israel.....New Orleans
Flinn, Clifton B.....Monroe
Groner, Edwin B.....Shreveport
Hinterlang, Victor A.....New Orleans
Seshul, Raymond.....Shreveport
Wahl, Carl N.....New Orleans
White, Harold A....New Orleans Parish
Whitman, George J.....New Orleans

Maine

Daniels, Samuel D..Greenwood Mountain
Douphinett, Otis J.....Portland
Greenlaw, William A.....Fairfield
Konecki, Thomas T.....S. Portland
Mallory, Robert III.....Farmington
Mann, David V.....Portland
Wolman, Harold M.....Waterville

Maryland

Aud, William D.....Silver Spring
Faw, Wylie M., Jr.....Cambridge
Martin, Clarence W. II.....Baltimore
Paul, Raphael N.....Baltimore
Pigford, Robert T.....Baltimore
Rosenfeld, David H.....Baltimore
Ross, John B.....Chevy Chase
Shelton, Rawley M.....Frostburg
Wolbert, Charles M.....Havre de Grace

Massachusetts

Adams, Frank D.....Brookline
Adzigian, Nazareth.....Stoneham
Atkins, Robert W.....Belmont
Averill, Charles.....Boston
Baer, Arthur E.....Ipswich
Barry, Manley L.....Boston
Beaser, Samuel B.....Melrose
Bloom, Philip.....Somerville
Bornstein, Morris V.....Springfield
Breed, Charles N. Jr.....Marblehead
Brochu, Charles E.....Webster
Brown, Kenneth A.....Lincoln
Burbank, Charles B.....Brookline
Buskirk, James H.....Cambridge
Campagna-Pinto, Dante F.....Boston
Carpenter, Robert J.....North Adams
Dillon, Raymond A.....Brookline
Dwyer, Clement S.....Watertown
Erickson, George C.....Worcester
Evans, Richard R.....Berlin
Ewell, John W.....Rowley
Fitzgerald, Thomas J. Jr.....Dorchester
Foisie, Philip S.....Milton
Fox, Lester I.....Haverhill
Frogel, Reuben H.....Braintree
Gale, Samuel.....Brockton
Guild, Sherley A.....Grafton
Hawes, Lloyd E.....Somerville
Hennelly, Thomas P.....Pittsfield
Hepburn, James P.....Milton
Hermanson, Robert H.....Brookline
Hillier, William F., Jr.....Lowell

Massachusetts—Continued

Holtham, William H.....Boston
Holtzman, Saul C.....Roxbury
Jennings, Charles G.....Boston
Keefe, Clarence J.....Springfield
Keller, Maurice J.....Suffolk
Kelley, Edmund P.....Brookline
Kellner, Aaron.....Boston
Kiniry, B. John.....Worcester
Lent, Sylvester M.....Hinsdale
MacDonald, Donald F.....Boston
Manganaro, Paul A.....Lawrence
Masterson, James H.....Worcester
Morrissey, Arthur M.....Medford
O'Brien, Paul I.....Dorchester
Olson, Raymond O.....Boston
Quinn, Philip.....Waltham
Pearson, Albert M.....Malden
Riley, Leo H., Jr.....Newton
Silver, Emmanuel.....Malden
Skolnick, Alec.....Dorchester
Straccia, Frank A.....Everett
Weiss, Daniel M.....Dorchester

Michigan

Aach, Hugo A.....Kalamazoo
Aiuto, James J.....Detroit
Beecher, Alvin J.....Detroit
Bernucci, Robert J.....Detroit
Betz, Eldean G.....Bridgewater
Bielwaski, John G.....Detroit
Bower, Richard E.....Detroit
Branch, Hira E.....Flint
Buchanan, William F.....Fenton
Gigliotti, David.....Detroit
Goode, Norman J., Jr.....Hazel Park
Hoffman, Edward A.....Detroit
Lampert, Ernest.....Detroit
Purdy, Frank M.....Dearborn
Reed, Thomas G.....Lake Odessa
Russell, Sherwood R.....St. Johns
Sigler, Louis E. Jr.....Grand Rapids
Woughter, Harold W.....Flint

Minnesota

Alcott, Donald L.....St. Paul
Bauer, Eugene L.....St. Paul
Brindley, George V., Jr.....Rochester
Buck, Ronald M.....St. Paul
Englund, Elvin F.....Minneapolis
Evensta, John B.....Pillager
Gilbert, Maurice G.....Minneapolis
Gordon, Sewell S.....Minneapolis
Greenberg, Albert J.....St. Paul
Gridley, John W.....St. Paul
Hansen, Robert E.....Minneapolis
Henningsgaard, Blair J.....Madison
Heusinkveld, Maurice M.....St. Paul
James, Ellery M.....Minneapolis
Keeley, James K.....Rochester
Licht, Hersh.....N. Minneapolis
McGee, Horace D.....St. Paul
Malette, Lester B.....Princeton
Meng, Ralph H.....Fergus Falls
Ralph, James R.....St. Paul
Sborov, Abe M.....S. Minneapolis
Scales, James R.....Rochester
Wittels, Theodore S.....Minneapolis

Mississippi

Barnes, George S.....Belzoni
Carsley, Robert A.....Canton
Clark, Randolph L. Jr.....Jackson
Ellis, Ernest E.....Waynesboro
Evans, Ben P.....Water Valley
Evans, John W.....Jackson
Field, Richard D.....Shaw
Green, Carl R.....Tupelo
Green, William R.....Tupelo
Horn, Carl L., Jr.....Magee
Kraus, Bernard M.....Belzoni
Lovell, Woodrow W.....Columbus
Tabb, William G. Jr.....Brandon

PHYSICIANS SEPARATED FROM SERVICE

Montana

Gans, Edward W.....Harlowton
Jones, Wendell L.....Missoula
Keenan, Maurice E.....N. Great Falls

Nebraska

Brown, Kenneth W.....Stratton
Drown, Roger E.....Seward
Slavik, Edward R.....Omaha

New Hampshire

Bastian, George L., Jr.....Manchester
Blodgett, Benjamin H. W.....Stewartstown
Davis, Stilman G. Jr.....Nashua
George, Robert P.....Hanover
Gilbert, John E.....Hanover
Thompson, John R.....Berlin

New Jersey

Ambrose, Francis A.....Paterson
Arcomano, Nicholas J.....Jersey City
Arons, Harry.....Union
August, Jack.....Newark
Baiocchi, Pascal J.....Newark
Barrett, Robert J. Jr.....Morris Plains
Belfer, Jacob J.....Trenton
Bocchini, Joseph A.....Newark
Brooke, Charles R.....Newark
Brozyna, Mieczyslaw J.....E. Rutherford
Bryan, Charles E.....N. Plainfield
Burke John F.....Cranford
Butler, Byron C.....Tenafly
Caleca, Jack J.....Andover
Carrington, William J.....Atlantic City
Cohen, Sidney A.....Newark
Conner, Herbert A.....Newark
D'Agostini, Alfred J.....Irvington
DeSimone, Louis E.....Asbury Park
Diana, Louis N.....Newark
Diskan, Samuel M.....Atlantic City
Earnest, Franklin III.....Collingswood
Eskesen, Ralph A.....Madison
Fasanella, Rocko M.....Trenton
Feinberg, Edgar L.....Atlantic City
Feldman, Morris B.....Jersey City
Ferrari, Salvatore T.....Paterson
Fiering, Abraham M.....Mountain View
Finegan, Paul J.....Trenton
Friedman, Milton.....Newark
Frosch, Frank J., Jr.....Atlantic City
Gardner, Sidney M.....Plainfield
Goldenberg, Seymour.....Atlantic City
Gordon, Abel.....Passaic
Grant, Francis J.....Jersey City
Grossman, Rubin.....Bayonne
Gruhler, Jean A.....Atlantic City
Guarraia, Joseph.....Hawthorne
Guidotti, Frank P.....Trenton
Hladycz, Jacob J.....Perth Amboy
Keyser, David.....Camden
Kreutz, Paul J.....Elizabeth
Lambertsen, Christian J.....Scotch Plains
Larkey, Irving G.....Newark
Leaman, Granville M.....East Orange
Lobsenz, Herbert.....Paterson
Lorinstein, Hyman I.....Atlantic City
Magee, William P.....Palisade
Magolda, Anthony F.....Vineland
Maisel, Irving.....Newark
Marvel, Peter H., Jr.....Northfield
Merendino, Vincent J.....Englewood
Mickewich, Stephen A.....Bayonne
Phillips, Paul.....Paterson
Ressetar, Michael J.....Garfield
Ross, John R.....Jersey City
Rottersman, William.....Paterson
Sanford, Marcus E.....Somerville
Schwarz, Henry J.....Bergen
Shargel, Maurice J. G.....Newark
Smith, Sydney F.....Highland Park
Steer, Charles M.....Pompton Lakes
Subin, Harry.....Ventnor
Taffet, William.....Belleville
Yelin, Gabriel.....Newark
Zullo, James E.....Jersey City

New York

Abel, Harold A.....New York
Abel, Martin S.....Manhattan
Adler, Kurt A.....New York
Alderman, Reuben P.....Syracuse
Alford, John E.....Buffalo
Allen, Harold.....Brooklyn
Alper, Irwin I.....Brooklyn
Alperin, Benjamin.....Brooklyn
Ayvazian, Edward A.....New York
Baetz, Richard W.....Buffalo
Barnett, Jack J.....Bronx
Baron, Benjamin.....Astoria, L. I.
Bass, Ernest.....New York
Bauer, Hans G.....New York
Baum, Irving S.....New York
Baum, Walter.....New York
Benjamin, Harry F.....Schenectady
Benjamin, Raymond G.....Riverhead
Bennett, Sidney.....Bronx
Bennett, William D.....Snyder
Benson, Thomas D.....New York
Berger, Alfred A.....Tottenville
Bernstein, Alfred J.....Bronx
Bickle, John R.....New York
Blade, Werner.....Kings Park
Blatt, Lester J.....Brooklyn
Bleiweiss, Irwin M.....New York
Block, Irving R.....Brooklyn
Bobowiec, Basil B.....Canandiagua
Bodansky, Oscar.....New York
Bodkin, Dominic G., Jr.....Brooklyn
Boshnack, Malcolm.....Great Neck
Britt, Robert C.....Tonawanda
Brizard, Joseph L.....Long Island City
Brodey, David F.....Bay Shore
Brown, George.....Bronx
Brown, Walter J.....Ossining
Brown, Wendell V.....Syracuse
Bumble, Samuel H.....Brooklyn
Burbank, Benjamin.....Brooklyn
Burdick, Mitchell.....Syracuse
Burke, Bernard J.....Syracuse
Burnes, Stanley P.....Buffalo
Burtner, Otto W., Jr.....New York
Burton, William A.....New Rochelle
Butsch, Winfield L.....Buffalo
Byrne, James W., Jr.....Utica
Byrne, John M.....Utica
Caccamise, Joseph G.....Jamestown
Cantor, Mortimer J.....Brooklyn
Carballeira, Manuel J.....Flushing
Carey, Walter A.....Yonkers
Carman, Harry E.....Brooklyn
Cavallaro, William U.....New York
Centerwall, Erwin R.....Brooklyn
Ciancimino, Frank E.....South Nyack
Cifarelli, Frank.....Brooklyn
Claxton, Edwin G.....Ogdensburg
Chapin, Horace B.....Batavia
Cohen, Harry M.....Long Island City
Cohen, Herbert G.....New York
Cohen, Samuel J.....Bronx
Colombo, Robert R.....Brooklyn
Cornell, Carleton M.....New York
Covelli, Joseph M.....Flushing
Crane, George L.....Cooperstown
Crino, Michael J.....Rochester
Dapolonia, Dante P.....Long Island
Davey, Joseph A.....New Rochelle
Davidson, Sidney.....Larchmont
D'Avignon, Francis W.....Lake Placid
De Furia, Albert C.....Syracuse
DeLaTorre, Teodoro.....Clifton
DeLucia, Carl S.....Troy
Dolan, David J.....New York
Dombeck, Sol.....Brooklyn
Draddy, Robert H.....New York
Duggan, John F.....Buffalo
Dunham, Wyllys A., Jr.....Corinth
Eckel, Frederick C.....Syracuse
Eddy, William N.....Oswego
Eisenberg, Alexander A.....New York
Eisenberg, Sanford H.....Long Island

New York—Continued

Elias, Moritz.....New York Mills
Ellenberg, Max.....New York
Elstein, Leo H.....New York
Emanuel, Alan.....New York
Epstein, Leonard M. L.....Amsterdam
Erger, Benjamin D.....Brooklyn
Evans, Edward G.....Utica
Falk, David.....Albany
Fallon, Francis X.....Brooklyn
Farmlett, George.....Freeport
Feinstein, Herman.....Hempstead
Feld, Leo.....New York
Fershtman, Max B.....Bronx
Feynman, Jacob S.....Corinth
Finch, Charles S. Jr.....Jamaica
Fine, Nathaniel J.....Brooklyn
Fishof, Frank E.....Bronx
Flaherty, Morton H.....Scarsdale
Fleischman, Morton.....Bronx
Fogliano, Frank J.....Bronx
Foote, Franklin M.....New York
Fox, Lester M.....Woodhaven
Franco, Frank O.....New York
Freeman, Philip P.....Brooklyn
Friedland, Philip.....New York
Friedman, Alexander.....New York
Friedman, Jacob H.....Bronx
Friedman, Murray N.....Brooklyn
Fruggiero, Enzo J.....New York
Frumin, Harry H.....Bronx
Frumkes, George.....New York
Fuchs, Jesse.....Jamaica
Galvin, William H. Jr.....Glen Cove
Garren, Mitchell G.....New York
Geckler, John H.....Buffalo
Geddis, James T. J.....New York
Gerendasy, Jerome.....Bronx
German, Bernard.....New York
Gibbons, John M.....Great Neck
Giglio, Joseph P.....Brooklyn
Gillick, William C.....Buffalo
Glauber, Jerome J.....Buffalo
Goldberg, Oscar.....Brooklyn
Goldbloom, Abraham A.....New York
Goldfeder, Abraham C.....Brooklyn
Golding, C. H. Jr.....Wappingers Falls
Goldman, Henry.....Brooklyn
Goldman, Joseph L.....New York
Goldstein, Boris A.....Niagara Falls
Goldstein, George.....Brooklyn
Good, Robert E.....Buffalo
Goodfriend, Sanford.....Brooklyn
Goodlett, William C.....Olean
Goodsell, Charles H.....New York
Goodstone, Gerald L.....Syracuse
Gordon, Harold M.....Cedarhurst
Gottesman, Nathaniel.....Longbeach
Goyanes, Evarardo.....Brooklyn
Granich, Leonard.....Corona, L. I.
Greene, Leon N.....Brooklyn
Greenfield, Philip.....Brooklyn
Grendon, David A.....New York
Gubin, Sidney.....Mt. Vernon
Haberfeld, Frederick F.....Richmond Hill
Hackmeyer, Rubin.....Mt. Vernon
Halle, Shea.....New York
Hammond, Willis E.....Edmeston
Harder, Alfred W.....Kingston
Harlin, Harrison C.....Brooklyn
Harman, John W.....New York
Harran, Jules L.....Brooklyn
Harris, Bruce A., Jr.....Brooklyn
Harris, Robert E.....Plandome
Harris, Scott T.....Rochester
Harris, Sidney.....Brooklyn
Heck, Walter E.....Syracuse
Henderson, Herbert B.....New York
Herman, Seymour J.....Brooklyn
Hershey, Herbert.....New York
Herzog, Aaron S.....Bronx
Hirsch, Erich.....Geneva
Hockstein, Elliott.....Brooklyn
Hogan, John J.....Syracuse

PHYSICIANS SEPARATED FROM SERVICE

New York—Continued

Holcomb, Edward S.....Brooklyn
Hooley, John S.....Rockville Centre
Hornick, Newton.....Brooklyn
Iorio, Frank P.....Forest Hills
Jagoda, Leonard S.....New York
Jaklitsch, Frank H.....Richmond Hill
Joffe, Arnold.....New York
Jucovy, Milton E.....Bronx
Juster, Milton A.....Brooklyn
Kahn, Jacob W.....Brooklyn
Kaminsky, Frank.....Brooklyn
Karan, Max.....Brooklyn
Karash, Sidney J.....Bronx
Karlen, Saul H.....New York
Karpel, Saul.....New York
Kenney, John M.....New York
Kessler, Sidney H.....Jamaica
Kissane, Monroe M.....Malone
Knisbaum, Martin.....Brooklyn
Knowlton, Peter.....New York
Kohn, Erwin.....New York
Korostoff, Bernard.....Brooklyn
Koven, Leo J.....Brooklyn
Krynski, Boris.....New York
Lambkin, Phillips.....New York
Lathbury, Edwin F.....Kenmore
Lavine, Abraham S.....Syracuse
Lecce, Anthony A.....Staten Island
Lee, John G.....Forest Hills
Lepoore, Michael J.....New York
Levine, Benjamin B.....Wantagh
Levine, George.....Brooklyn
Levine, Jacob.....Bronx
Levine, Mathew.....Brooklyn
Levy, Bernard G.....Brooklyn
Lewis, William R.....Niagara Falls
Libien, Benjamin H.....Brooklyn
Lichtenberg, Walter.....New York
Link, Joseph K.....E. Aurora
Lipman, Jacob.....New Rochelle
Litvak, Henry W.....Staten Island
Litwins, Joseph.....New York
Loiacono, Felix P.....Yonkers
Loizeaux, Edward C.....Tuckahoe
Lombardo, Theodore R.....Brooklyn
Longworth, Edmund F.....Pelham
Lorberblatt, Isaac.....Brooklyn
Lurie, Paul R.....New York
McCrudden, William P.....New York
McDermott, William C.....New York
McEwen, Osceola C.....Riverdale
MacGregor, Kenneth H.....Brooklyn
Malgieri, John.....White Plains
Mallin, Edward J.....Woodhaven
Maurer, Ervin A.....Rochester
Meltzer, Theodore.....Brooklyn
Mescon, Herbert.....Bronx
Milbert, Arthur H.....New York
Miller, Benjamin S.....Brooklyn
Montross, Henry E.....New York
Moore, Valentine J.....Ossining
Mulberg, Harry.....Long Island City
Neffson, A. Harry.....New York
Neshamkin, Oliver M.....New Rochelle
Neuberg, Hans.....Rochester
Neuman, Monroe E.....New York
Neumann, Charles P.....Central Valley
Ofner, Leslie M.....New York
Oliver, Norman.....New York
Olivetti, Renzo G.....New York
Oppenheimer, Hans.....New York
Padget, William R.....Rodman
Panissidi, Nino V.....Jamaica
Panvini, Vincent J.....New York
Paris, David.....Brooklyn
Pierce, Allen A.....Buffalo
Pierce, Hugh M.....Rochester
Pierce, Lee R.....White Plains
Pike, John B.....Canton
Pine, Irving.....Binghamton
Plachta, Aaron.....New York
Platz, Harold J.....Minoa

New York—Continued

Pomeranz, Alfred A.....Brooklyn
Potsubay, Samuel F.....Brooklyn
Priestman, Maynard G.....Kings Park
Ranallo, John J. Jr.....New York
Rangell, Leo.....New York
Rappaport, David.....New York
Redisch, Walter.....Jackson Heights
Reznikoff, Leon.....New York
Rifkin, Harold.....Brooklyn
Robbins, Barnard.....New York
Robins, Sol A.....Long Island
Robinson, Bernard P.....New York
Robinson, Robert A.....Brooklyn
Roessel, Carl W.....New York
Rogers, Seymour S.....Brooklyn
Romascan, Jack.....Bronx
Root, Robert.....Brooklyn
Rose, Robert Misner.....Tonawanda
Rust, Charles B.....New York
Rutkowski, Chester.....Malone
Sabatino, Nathale A. M. O.....Brooklyn
Sachs, Perry M.....New York
Schoenholtz, Seymour M..Campbell Hall
Schrweide, Anton W.....Syracuse
Schwab, John M.....Binghamton
Scudder, Sidney T.....Brooklyn
Seymour, Joseph S.....Brooklyn
Shaffer, Charles A.....Olean
Shapiro, David.....Brooklyn
Shrady, Raymond H.....New York
Shurman, Hans.....Jackson Heights
Siegal, Manahiem.....Brooklyn
Silberbush, Harold.....Brooklyn
Skerritt, Edward G.....Brooklyn
Sokal, Joseph E.....Brooklyn
Sorrentino, Joseph.....Brooklyn
Spark, Charles.....Jackson Heights
Speranza, Joseph J.....Brooklyn
Springer, Morris.....Brooklyn
Stanton, Jay.....Brooklyn
Stein, Martin.....Brooklyn
Sugarman, Milton J.....Syracuse
Swift, Edward A.....Syracuse
Tabrah, Frank L.....Eggertsville
Tanous, John H.....Lawrence
Tendler, Jack.....New York
Terwilliger, Calvin K.....New York
Thaler, David.....Bronx
Thomas, Samuel F.....New York
Thompson, Henry W.....New York
Tibbitts, Ward F.....Albany
Vadasz, Edmond.....Woodside
Weinberg, Frederick.....Brooklyn
Weiss, Leo.....Brooklyn
Willson, Osberne P.....Oakfield
Winthrop, Griffith J.....Canandaigua
Witka, Thaddeus M.....Buffalo
Wolff, William I.....E. New York
Zecchino, Vincent.....Flushing
Zydney, Jack Karl.....New York

North Carolina

Austin, Frederick D., Jr.....Charlotte
Badger, George F.....Fayetteville
Baldwin, Earl R. Jr.....Greensboro
Bright, Daniel.....Jacksonville
Byerly, Claude H.....Sanford
Carr, Robert E.....Clinton
Coffey, James C.....Salisbury
Glasson, John.....Durham
Harris, Lofton H.....Siler City
Parrish, Albert A.....Durham
Sheldon, Albert J.....Norlina
Skinner, Benjamin S.....Durham
Stadiem, Moser L.....Durham
Vernon, James T.....Morganton
Waller, Louis C.....Candler
Washburn, Willard W.....Shelby
Weeks, John F. Jr.....Elizabeth City
Wellborn, William R. Jr.....Elkin
Williams, William H. Jr.....Charlotte
Womble, William H. Jr.....Greensboro

North Dakota

Creighton, Louis H.....Spiritwood
Gilliland, Robert F.....Devils Lake
Nuessle, Robert F.....Bismarck
Piltingsrud, Harold R.....Leeds

Ohio

Abramson, David I.....St. Bernard
Ackerman, Garrett B.....Columbus
Allen, Alfred G.....W. Glendale
Anderson, Robert A.....Dayton
Arapakis, Peter Z.....Akron
Arduino, Lino J.....Dayton
Bacon, William T.....London
Batten, Grover H.....Cincinnati
Beachler, John F., Jr.....Cleveland
Berger, Benjamin.....Cleveland
Booth, George T.....Toledo
Brown, David.....Columbus
Burrell, Robert B.....Columbus
Burt, Olan P.....Columbus
Chamberlin, Wm. B. Jr...Cleveland Hts.
Chase, Robert L.....Cleveland
Chirelli, Gene D.....Youngstown
Chrenka, Paul.....Cleveland
Chrispin, John W. Jr.....Marion
Claugus, Clarence E.....Cincinnati
Conaway, Earl E.....Cambridge
Corpe, Kennth F.....Toledo
Dorroh, Glenn U.....Cincinnati
Fath, August F.....Cincinnati
Fisher, John A.....Cincinnati
Ford, Elbert S. C.....Cleveland
Gould, James A.....Dayton
Greene, Norbert S.....Cleveland
Gross, Joseph.....Cleveland
Grossman, Morton I.....Canton
Hall, Winston C.....Toledo
Hantman, Samuel.....Cleveland Hts.
Harbrecht, Phil J.....Pomeroy
Harris, Edward W.....Columbus
Harris, Frank H.....Martins Ferry
Harsha, J. M.....Washington Ct. House
Hough, Paul S.....Cincinnati
Jubelirer, Richard A.....Cincinnati
Karwowski, Bernard A.....Toledo
Kostoff, Albert.....Columbus
Lacksen, Frank J.....Columbus
Lerro, Sam A.....Cleveland
Liber, Kay E.....Canton
Lucas, John R.....Columbus
Nozik, Benjamin.....Cleveland
Pollock, James H.....Saint Clairsville
Shilling, Raymond L.....Ashland
Shimansky, Lee E.....Vermilion
Stillson, Dean E.....Youngstown
Thumann, Robert C., Jr.....Columbus
Weckesser, Elden C.....Cleveland
Whitehead, Randolph P.....Toledo
Wickter, Ralph A.....Toledo
Wilkins, John M.....Marysville
Wood, Vernon B.....Ironton

Oklahoma

Amspacher, Jimmie C.....Norman
Birge, Jackson P.....Oklahoma City
Bloss, Claude M.....Okemah
Brixey, Albin M., Jr.....Norman
Burnett, Hal A.....Oklahoma City
Florence, John.....Cushing
Gray, James K.....Tahlequah
Green, Harry.....Tulsa
Gwin, Jerry B.....Ada
Huckins, Maurice Jr.....Sasakwa
Lerner, Abraham R.....Oklahoma City
Miller, William R.....Norman
Neer, Charles S., II.....Vinita
Perry, Daniel L.....Tulsa
Reid, Roger J.....Ardmore
Sewell, Dan R.....Oklahoma City
Taylor, Robert L.....Oklahoma City
White, James W.....Oklahoma City
Zehnpfennig, Urban H.....Lawton

PHYSICIANS SEPARATED FROM SERVICE

Pennsylvania

Abramson, Edwin B.....Philadelphia
Backenstoe, Gerald S.....Emmaus
Balter, Abraham M.....Aspinwall
Bentzen, Jaul.....Downington
Berenbauer, Arthur A.....Philadelphia
Beswick, Robert C.....Pittsburgh
Bishow, Isadore R.....Philadelphia
Bloser, Donald P.....Enola
Boyson, William A.....Mechanicsburg
Braitman, Robert A.....Philadelphia
Brawley, Richard L.....Allentown
Burden, Samuel S.....Elkins Park
Callery, Gerald E.....New Philadelphia
Calvanese, Nicholas A.....New Castle
Campbell, George R.....Pittsburgh
Campbell, Robert C.....Pittsburgh
Carey, John L.....Kingston
Chappell, Leslie E.....Kennett Square
Chusid, Joseph G.....Philadelphia
Clever, John E.....Wilkinsburg
Cohen, David J.....Philadelphia
Comstock, Tracy R.....Morris
Cortes, Noel J.....Philadelphia
Cotter, Charles F.....Monaca
Coughlin, John B.....Athens
Crane, Nathan.....Philadelphia
Cushner, John J.....York
Davis, Norman N.....Pittsburgh
DeDominicis, Frank A.....Philadelphia
De Leo, Anthony G.....Dormont
DeMeules, Edgar A. Jr.....Philadelphia
Depp, Edward B., Jr.....Pittsburgh
Dickson, Glenn S.....Philadelphia
Diess, Robert G.....Pittsburgh
DiGiacomo, Alfred M.....Philadelphia
Dintenfass, Arthur.....Philadelphia
Donadeo, John J.....Pittsburgh
Ellis, Ralph W.....Yardley
Ernst, Edgar M.....Stony Creek Mills
Fleck, Charles H.....Altoona
Flynn, Paul L.....Philadelphia
Frank, Reuben.....Philadelphia
Frediani, Alexander W.....Philadelphia
Freeman, Leo B.....Philadelphia
Friday, John R.....Pittsburgh
Gaisford, John C.....Chicora
Gifford, Roy W.....Gettysburg
Glass, William W.....Bradford
Goldberg, Morris J.....Philadelphia
Gottlieb, Philip M.....Philadelphia
Graditor, Milton H.....Belle Vernon
Grady, William F.....Dunmore
Griffiths, James A.....Spring City
Grosh, Joseph W.....Lititz
Grubbs, Robert M.....Mt. Lebanon
Guzek, Joseph T.....Olyphant
Heckscher, Rudolph H., Jr...Swarthmore
Heim, Oscar E. Jr.....Philadelphia
Hetrick, Matthew A.....Harrisburg
Heydt, Ernest H., Jr.....Glenside
Hinderer, Kenneth H.....Pittsburgh
Hobach, George B.....Norristown
Hobach, John P.....Norristown
Hoffman, Charles M. Jr.....Lancaster
Hoffman, Kelse M.....Franklin
Hopkins, Henry U.....Philadelphia
Hourican, Donald J.....Pittsburgh
Huber, Charles B.....Pittsburgh
Johnston, Frank B.. .....Philadelphia
Kaplan, Charles.....Pittsburgh
Karmany, William H.....Hummelstown
Kennerdell, Edward H.....Tarentum
Kilhullen, Richard J.....Wilkes-Barre
Kitzmiller, John K.....Harrisburg
Kuhlenbeck, Hartwig.....Germantown
Labuz, Eugene F.....Hazleton
Land, Alfred J. ... .Minersville
Leman, William W.....Philadelphia
Lenton, Herbert P.....Carlisle
McCall, Charles S. Jr.....Philadelphia
McFarland, Malcolm D.....Philadelphia
McGuire, William F.....Philadelphia
MacKenzie, Norman D.....Philadelphia

Pennsylvania—Continued

Marden, Philip A.....Philadelphia
Martucci, John J.....Philadelphia
Mitts, Roger M.....Pittsburgh
Muckinhoupt, Frederick H.....Meadville
Murphy, Foster E.....Philadelphia
Murray, Richard C.....Patton
O'Brien, Frank T.....Scranton
Pastorius, George J.....Conemaugh
Rhodes, John F.....Stroudsburg
Salko, Edward W.....Pittsburgh
Schildecker, William W.....Pittsburgh
Schlumberger, Hans G.....Philadelphia
Shaler, James B.....Pittsburgh
Shelby, Richard D.....Swissvale
Shepard, Warren B., Jr.....Pittsburgh
Stapinski, Cyril C.....Glen Lyon
Suter, William B.....Philadelphia
Swartz, Edward P.....Scranton
Williams, Burton L.....Mt. Carmel

South Carolina

Baker, Ralph P.....Newberry
Byerly, William L. Jr.....Hartsville
Dempsey, Eugene C.....Mullins
Hall, William H.....Clinton
Harden, John M.....Greenville
Higdon, Albert L.....Spartanburg
Marett, William C. Jr.....Seneca
Orr, Clarence W.....Spartanburg
Price, Neil C.....Orangeburg
Warner, William P. Jr.....Greenville

Tennessee

Beaven, Charles W.....Nashville
Bernard, Jack A.....Rockwood
Best, Earl M., Jr.....Knoxville
Binkley, George T.....Goodlettsville
Boyd, James K.....Memphis
Brabson, John A.....Greenville
Bussey, Thomas B.....Memphis
Caldwell, John D.....Jefferson City
Coy, Louis P.....So. Nashville
Ford, Augustus C. Jr.....Chattanooga
Goltman, David W.....Memphis
Huey, Ellis J.....Memphis
Livermore, George R., Jr.....Memphis
Lyle, Philip L.....Clarksville
Mosby, Thomas L.....New River
Roberts, James B.....Nashville
Scoville, Addison B. Jr.....Nashville
Seibly, Ralph G.....Nashville
Stepp, William P.....Memphis

Texas

Adams, George.....Dallas
Allensworth, John C.....Lubbock
Atkins, Richard D.....Wichita Falls
Barnebee, James H.....Mission
Barnhart, Joe M., III.....Beeville
Bergfeld, Jack A.....New Braunfels
Blocker, Truman G., Jr.....Galveston
Burch, Joseph S.....Lufkin
Calma, Victor C.....Houston
Cameron, Harold B.....Commerce
Carroll, James R.....Amarillo
Cobb, John Littleton.....Lubbock
Cole, Edward L.....Lamesa
Colgin, James H.....Waco
Cornwell, Charles H.....Marlin
Craige, Ernest.....El Paso
DeLaGarza, Henry.....Brownsville
Eden, George F.....El Paso
Entzminger, Lindell B.....Dayton
French, Jack A.....San Antonio
Fuqua, William C.....Beaumont
George, James C., II.....Brownsville
Gilmore, Jack T.....McKinney
Gonzalez, Joaquin B.....San Antonio
Hale, Lee E.....Lubbock
Hargrove, Carey J.....Houston
Hargrove, Eugene A.....El Paso
Hejtmancik, Milton R.....Giddings
Hocott, Joseph F.....Lyford
Joslin, Blocker H.....Atlanta

Texas—Continued

Kennedy, Hugh A.....Corpus Christi
Kirksey, O. T.....San Antonio
Krueger, Kenneth W.....Waco
Little, Frank J.....Sherman
Mims, James L., Jr.....Fort Worth
Nassour, Herbert R. Jr.....Lockhart
O'Gorman, William D.....San Antonio
Ostendorf, Walter A.....San Antonio
Parker, Stephen M.....Olmito
Pyterek, Arthur B.....San Antonio
Ressmann, Arthur C.....San Antonio
Roberts, Albert D.....Fort Worth
Schaffer, Randolph L.....Rosenberg
Sitta, Raymond E.....Chillicothe
Snyder, Roy E.....Fort Worth
Stroud, Sanders K.....Corpus Christi
Taylor, Homer A., Jr.....Dallas
Westphal, Robert D.....Yorktown
Wilson, William S., Jr.....Taylor
Winkelmann, Eugene C.....Brenham
Womack, Harry H.....Fort Worth
Yeager, Charles L.....Waco

Virginia

Alrich, Elton M.....Charlottesville
Barton, David J.....Roanoke
Brooks, George K., Jr.....Richmond
DeJesus, José A.....Charlottesville
Duncan, Leroy E., Jr.....Norfolk
Eastham, Edwin M.....Huntly
Fear, Douglass D.....Roanoke
Harrison, Isabella.....Charlottesville
Hortenstine, John C.....Abingdon
Markham, Jerome D.....Richmond
Merker, Frank F.....Richmond
Schreiber, Julius.....Falls Church
White, Frederick D.....Norfolk
Whitehouse, Francis R.....Lynchburg

Washington

Berge, Wilford W.....Everett
Betts, Richard A.....Spokane
Burrows, Frederick L.....Yakima
Butler, Franklin M.....Spokane
Christiansen, Philip L.....Seattle
Hunter, Robert B.....Sedro Woolley
Rich, Leonard B.....S. Seattle
Todd, Gordon M.....Pullman
Miller, James A.....Colfax

Wisconsin

Bayley, William E. G.....La Crosse
Bronson, Howard A.....N. Fond Du Lac
Cherasky, Simon.....Eau Claire
Drischler, William H.....Milwaukee
Farrell, John J.....Prairie du Chien
Freedman, Milton S.....Milwaukee
Gendlin, Nathan A.....Milwaukee
Haines, Brunetto J.....Arcadia
Haman, Kenneth L.....Milwaukee
McLean, Howard K.....Milwaukee
Stevenson, Donald J.....Ladysmith

Hawaii

Chock, Philip W. H.....Hilo
Ho, Albert K. T.....Honolulu
Ohata, Seiya.....Paia

Puerto Rico

Aguilo, Oscar.....Mayaguez
Dalmau, Miguel S.....Santurce
Fernandez, Eugenio.....Santurce
Firpi, Miguel A. Jr.....Santurce
Gonzalez, Jose P.....Santurce
LaCourt, Luis L.....Caguas
Olivella, Jaime A.....Juana Diaz
Silva, Edgardo R.....Rio Piedras

Recalled or Not Relieved from Active Duty

Guidone, Erel L...West Townsend, Mass.

MEDICAL OFFICERS RELEASED BY THE NAVY

NAVAL RESERVE MEDICAL OFFICERS RECOMMENDED FOR RELEASE FROM ACTIVE DUTY

Alabama

Brock, William M.....Fairfield
Butler, Joseph L.....Selma
St. Amant, Alvin F.....Demopolis

California

Cassidy, Charles Augustus H..San Diego
Chester, Spencer T.....Sacramento
Dixon, Harold R. Jr.....Mt. View
Eliel, Leonard P.....San Francisco
Evans, John P.....Carpinteria
Hamwi, George J.....Galeta
McNearney, James J.....Merced
Matthews, Jack M.....Huntington Park
Oldberg, Frederick H. C.....Fresno
Schroeder, Albert J.....San Diego
Schwartz, Harold.....San Diego
Slattery, Paul A.....Berkeley
Torassa, George L., Jr.....Oakland
Vizzard, Joseph N.....San Francisco

Georgia

Bellville, Charles G.....Attapulgus
Bloom, Walter L.....Atlanta
Brown, Jesse B. Jr.....Garfield
Clary, Warren U.....Savannah
Cordes, John H., Jr.....Decatur
Duncan, J. Harry.....Hazelhurst
Freedman, Milton H.....Atlanta
Garner, James S. Jr.....Rome
Green, Charles G.....Waynesboro
Hrdlicka, George R.....Atlanta
King, William R. Jr.....Tennille
Lee, Howard B.....Atlanta
McLin, Marvin H.....Augusta
Mann, David S.....Dublin
Moore, William W. Jr.....Atlanta
Neel, Julian B.....Thomasville
Palmer, John R. Jr.....Waynesboro
Pirkle, Quentin R.....Hoschton
Sloan, Wyman P., Jr.....Atlanta
Veatch, Jesse W. Jr.....Atlanta

Illinois

Abrams, Walter.....Chicago
Ashley, Thomas E.....Granite City
Burhans, Donald L.....Peoria
Craven, Robert J.....Chicago
Denten, Albert G.....Chicago
Dritz, Irwin.....Chicago
Dudek, John M.....Chicago
Fox, Benum W.....Oak Park
Grubb, Robert D.....Bloomington
Haeger, Reed R.....Berwyn
Jozaitis, Edward.....Chicago
Leigh, Fred D.....Mt. Carroll
Lofgren, Karl A.....Rockford
Love, Willard H. Jr.....Chicago
McDonald, Donald F....Chicago Heights
Netzel, Edwin P. R.....Chicago
Rossell, Charles E.....Chicago Heights
Scott, William M.....Sullivan
Sheets, Raymond F.....Carthage
Stites, Hugh D.....Aledo
Vollan, Douglas D.....Chicago
Wunsch, Lloyd A.....Pontiac
Young, James J.....Chicago

Indiana

Brown, Leland G.....Muncie
Conley, Thomas M.....Kokomo
Faith, Ira L. Jr.....Evansville
Hammond, Ruben C.....Evansville
Johnson, Don E.....Delphi
King, Robert W.....Anderson
Kitterman, Harry E.....Indianapolis
Salomon, James L.....LaFayette
Schnoll, Robert J.....Fort Wayne
Shullenberger, Cleo C.....Indianapolis
Smith, George W.....Dunkirk
Vanatta, John C. III.....Brookston

Massachusetts

Alemian, Arsham.....E. Weymouth
Bantze, Frank A.....Boston
Butler, Philip S.....West Medford
Dow, David C.....Cambridge
Duncan, Thomas F.....Boston
D'Urso, John J.....Methuen
Goodnow, Chester L.....Winchester
Grainger, Henry B.....Roslindale
Hertz, Saul.....Brookline
Kaplan, Morris.....Dorchester
Kaufman, Sumner.....Chelsea
MacGilpin, Harold H., Jr.....Worcester
Martin, Richard G.....Belmont
Mayo, Frederic B.....Beach Bluff
Miller, Leon W.....Watertown
Mixter, George Jr.....Boston
Monahan, John L.....Dorchester
Newman, Arthur S.....Mattapan
Piskor, Bernard S.....Turners Falls
Poutasse, Eugene F.....Worcester
Robinson, Harold S.....Auborndale
Sisson, John H.....Brookline
Smith, Ernest J., Jr.....Ipswich
Spooner, Raymond H.....East Douglas
Thompson, Charles C.....Sharon
Tobias, James B.....Woburn
Trott, Arthur W.....Wallaston
Willard, Burton.....Lynn

Michigan

Baker, Howard A.....Detroit
Barton, Thomas A.....Ann Arbor
Doczema, Edward R.....Grand Rapids
Drygas, Henry F.....Detroit
Fisher, Russell S.....Detroit
Gaydos, Leonard M.....New Boston
Huntley, Wellington B.....Detroit
Manry, Clayton H.....Ann Arbor
Monroe, Francis B.....Iron River
Munro, Nathan D.....Jackson
Pfundt, Robert T.....Detroit
Ryan, Richard S.....Saginaw
Wickert, Leo R.....Pleasant Ridge
Yankovsky, Alexander.....Detroit

Missouri

Chrisman, Oscar D.....Jefferson City
Esslinger, Gillis A.....Kansas City
Farley, Claude C.....Kansas City
Fuhrman, Donald L.....Mound City
Joslyn, Harold L.....St. Louis
Kelley, Isaac D. Jr.....St. Louis County
Kurth, Robert K.....St. Louis
Letterman, Gordon S.....St. Louis
McMahon, Alphonse.....St. Louis
Schrepel, Herbert O.....St. Louis
Smith, Frank V. Jr.....Kansas City
Statland, Morris.....Kansas City
Stegmaier, Otto C. Jr.....Jefferson City
Tjoflat, Oliver E.....St. Louis
Wyrens, Donald E.....St. Louis

New York

Allen, Edward R.....Cortland
Auerbach, Oscar.....Staten Island
Barasch, Aaron H.....Bronx
Bush, Elliot T. Jr.....Elmira
Carlton, James G.....Warrensburg
Castellano, Philip J.....Brooklyn
Drummond, Samuel D.....Brooklyn
Dustin, John K.....Buffalo
Eagle, Milton.....Hollis
Eichhorn, Ralph D.....New York
Farber, Saul J.....Brooklyn
Feltman, James A.....New York
Friedman, Barry A.....New York
Gunther, Walter A.....Troy
Gurney, Edward M.....Brooklyn
Hanley, Harry V., Jr.....Brooklyn
Harris, Henry F.....New York
Heneghan, William F.....Brooklyn

New York—Continued

Hubbell, John P. Jr...Garden City, L. I.
Huss, John H.....Jackson Heights
Jessup, Richard.....Rochester
Krieger, Howard P.....Lawrence
Lape, Charles P.....Buffalo
Lieberman, Nathan.....Brooklyn
MacAulay, James G.....Rye
Merkel, Carl G.....Mt. Morris
Merrilees, William H.....Lancaster
Meyer, Frank C.....Syracuse
Pierce, Alson F.....Coopers Plains
Riley, Arnold O.....Dolgeville
Rosenberg, Alexander E.....New York
Rosenberg, Solomon.....Brooklyn
Scorza, Aldo C...Long Island City, L. I.
Selle, Harold C.....Bronx
Sweeney, Lawrence.....Brooklyn
Van Dyke, Paul B.....New York
Warrick, Francis B.....Douglaston, L. I.
Weeden, Willis F.....Frankfort

Ohio

Cobbey, Theodore S., Jr.....Canton
Cunningham, James K.....Newark
Henry, Robert J.....Columbus
Kattus, Albert A. Jr.....Cincinnati
Lewin, Walter O. Jr.....Shaker Heights
McCollam, Ben R.....Toledo
Mussey, Robert D. Jr.....Wyoming
Peters, David C.....Cincinnati
Riemenschneider, Edwin A.....Berea
Sweeny, William T....Cleveland Heights
Todd, Donald P.....Cleveland Heights
Utterback, Manly.....Cleveland

Pennsylvania

Bernstine, Melvin L.....Bala
Breme, Julius C.....Philadelphia
Eyester, William H., Jr.....Lewisburg
Fedack, William J.....Philadelphia
Hulley, William C., Jr.....Pittsburgh
Ingersoll, Charles J.....Philadelphia
Johnson, Fenimore T.....Wayne
Knight, Francis P.....Philadelphia
Larkin, William A.....Uniontown
Margolies, M. P.....Coatsville
Moatz, James D.....Allentown
Schuessler, Paul W.....Easton
Vick, Edward H.....Ardmore
Winstanley, Robert A.....Johnstown

Tennessee

Crockett, Charles A.....Fayettville
Ogle, Luther C.....Memphis
Riggsbee, John B.....Nashville
Williams, Timothy G.....Decherd
Woods, James W. Jr.....Lewisburg

Vermont

Palans, Christopher G.....Burlington

Virginia

Fink, Herbert W.....Norfolk
Kolb, Lawrence C.....Norfolk
Meyersburg, Herman A....Charlottesville
Moir, William M.....Charlottesville
Robelen, Harry C., Jr.....Richmond
Rosenthal, Macey H.....Lynchburg
Wiseman, Henry A., III.....Danville

Wisconsin

Baier, Armin R.....Oshkosh
Clausen, Norman M.....Madison
Danforth, Harold J.....Oshkosh
Eidsmoe, Noland A.....Birchwood
Haseltine, Charles P.....Ripon
Haufe, William D.....Wausau
Hyde, Arthur G.....Kaukauna
McCormick, William A. Jr...Sheboygan
Mehn, W. Harrison.....Fond du Lac
Radewan, Milton G.....Madison
Weisse, Harris A.....Milwaukee

Medical News

(PHYSICIANS WILL CONFER A FAVOR BY SENDING FOR THIS DEPARTMENT ITEMS OF NEWS OF MORE OR LESS GENERAL INTEREST: SUCH AS RELATE TO SOCIETY ACTIVITIES, NEW HOSPITALS, EDUCATION AND PUBLIC HEALTH.)

COLORADO

The Friedman Lectures.—The annual William S. Friedman Lectures under the auspices of the National Jewish Hospital at Denver will be given in cooperation with the University of Colorado School of Medicine, Denver, and the Medical Society of the City and County of Denver on November 4-5 at the school of medicine. Guest lecturers will include Drs. Edgar Mayer, assistant professor of clinical medicine at Cornell University Medical College, New York; Louis S. Goodman, professor of pharmacology at the University of Utah School of Medicine, Salt Lake City; Arthur M. Master, cardiologist, Mount Sinai Hospital, New York, and Dwight E. Harken, thoracic surgeon to the Boston City Hospital, Memorial Hospitals and Cambridge Hospital. The Friedman lectures honor the memory of Rabbi William S. Friedman of Denver, one of the founders and president of the National Jewish Hospital. Although the Friedman Lecture Fund provides that the series be held annually, during the war they were given only once because of transportation restrictions. This year's evening sessions will be devoted to recent advances in drug therapy, surgery of the heart and various phases of heart disturbance. In addition, postgraduate clinics will be held in conjunction with the school of medicine, in which the guest lecturers will take part.

CONNECTICUT

Gift for Building Fund.—An anonymous donor has given $1,000 to the board of trustees of the Connecticut State Medical Society. Five hundred dollars is given in tribute to the physicians and nurses of Connecticut who served in the armed forces during World War II and $500 in tribute to the civilian physicians and nurses of Connecticut who served during the war.

Public Demonstration in Honor of a Physician.—On September 10 the town of Madison closed its stores and its schools to hold a public celebration in honor of Dr. Milo P. Rindge, who has practiced in Madison for almost forty years. The celebration consisted of a parade, a public reception and a testimonial dinner. At the head was "the Madison High School band, followed by four floats depicting some of the trials of a country doctor's life—kitchen table surgery, the telephone ringing at 3 a. m. and the crowded waiting room. Then came a procession of townsfolk ranging in age from 3 to 35, each proudly wearing a pink and blue tag marked 'I am a Rindge baby.'" A bicycle, a gig and a box buggy showed the means of transportation with which Dr. Rindge used to make his calls on the sick. With the physician at the reception were his daughter, Dr. Mila E. Rindge, and his two sons, Dr. Norman P. Rindge, a physician in Clinton, and Howard Rindge, a banker in Middletown. The physician was presented with a watch inscribed "To Milo P. Rindge in appreciation of his forty years of faithful service to the community."

IDAHO

Personal.—Dr. Charles A. Robins, St. Maries, was nominated as Republican candidate for governor in the primaries in June. Dr. Robins has served in the state legislature as senator from Benewah County for four terms.

New Pediatric Society.—The Idaho State Pediatric Society was organized July 19 during the fifty-fourth meeting of the Idaho State Medical Association. This is the first specialty society organized on a statewide basis in Idaho. Meetings will be held quarterly. Officers include Dr. Harmon A. Tremaine, Boise, president; Dr. William F. Passer, Twin Falls, vice president; Dr. Robert S. McKean, Boise, secretary.

ILLINOIS

State-Aided Diagnostic Clinic in Evanston.—The state department of public health September 27 announced the establishment of a new state-aided cancer diagnostic clinic at St. Francis Hospital, Evanston. The schedule of diagnostic meetings at this center is every Tuesday and Friday morning at 10. Owing to the high death rate from cancer, second highest of all diseases, and the great value of early diagnosis, the division of cancer control is making an effort to establish diagnostic clinics at convenient points throughout the state. The Evanston center makes the sixth so far established, the other five being in Chicago, Rockford, East St. Louis, Springfield and Champaign.

Chicago

Personal.—Dr. Benjamin M. Kagan, recently released from service in the army, has been appointed director of the new Kundstadter Laboratories for Pediatric Research, Michael Reese Hospital. Dr. Kagan was from 1940 to 1942 an instructor in pediatrics at the Medical College of Virginia, Richmond, where he also engaged in private practice.——Dr. Afranio do Amaral, head of the Instituto Butantan of São Paulo, Brazil, recently visited the American Medical Association Headquarters.——Dr. Willard O. Thompson, 700 North Michigan Avenue, is the new managing editor of the *Journal of Clinical Endocrinology*, succeeding Dr. Kenneth W. Thompson, resigned.

Available Beds for Poliomyelitis.—Sixteen beds for convalescent patients were made available October 16 at the University of Illinois research and educational hospitals. Reopening of the fourth floor of the building which houses the Illinois Surgical Institute for Children is the result of a contractual arrangement between the university and the National Foundation for Infantile Paralysis. For the past two years the 16 bed floor at the university hospitals has been closed because of lack of nursing personnel. The present contract extends for ninety days, with renewal options through June 30, 1947. It is expected that the university will utilize the bed space for its own patients after that date.

Prize in Surgery.—The Chicago Surgical Society prize of $250 will be awarded in 1947 to some young man devoting himself to surgery in Cook County, who is not a member of the Chicago Surgical Society, for meritorious work in the fields of experimental and clinical surgery (either or both). The work must be original, with original illustrations, and the paper should never have been read or published anywhere in its final form. Papers should not have any identifying marks other than the title. They should be accompanied with a sealed envelop bearing only the title. Within the envelop should be the title and the name and address of the author. The material to be considered should be submitted to the chairman of the committee, Dr. Michael L. Mason, 154 East Erie Street, Chicago, on or before March 1.

Medical Society Meetings.—Dr. Andrew C. Ivy, vice president in charge Chicago Professional Colleges, University of Illinois, opened the scientific meetings of the Chicago Medical Society October 16 with a talk on "Nazi War Crimes of a Medical Nature." On November 20 the speakers will be Dr. William A. Altemeier, professor of surgery, University of Cincinnati College of Medicine, on "The Value and Limitations of Chemotherapy in the Management of Certain Surgical Infections," and Dr. Chester S. Keefer, Wade professor of medicine, Boston University School of Medicine, on "Chemotherapy in the Management of Medical Infections," and on December 11 Dr. Carl V. Moore, professor of medicine, Washington University School of Medicine, St. Louis, "An Appraisal of Folic Acid for the Treatment of Anemia," and Dr. John D. Stewart, professor of surgery, University of Buffalo Medical School, "Hemoptysis."

Presentation of Scholastic Awards.—On October 1 the second presentation of the Phi Rho Sigma Scholarship awards took place in special ceremonies in the Archibald Church Library, Northwestern University Medical School. The first award, a $100 U. S. government bond and a certificate of recognition, given to the student who has maintained the highest scholastic average during his first three years of medicine at Northwestern, was presented to Mr. Sheldon S. Waldstein. The second award, a framed certificate offered to the national medical fraternity at the medical school having thirty or more active members enrolled as regular students which has maintained the highest scholastic average during the preceding year, was given to Phi Beta Pi. The third award, a $50 U. S. government bond and a certificate, given to the man in the winning fraternity who has been chosen by his fraternity as the student who contributed most toward winning the award, went to Mr. Edward N. Tihen. The presentations were made by Dr. Howard B. Carroll, president of the Alpha Association of Phi Rho Sigma and chief of staff elect at Passavant Memorial Hospital. These awards were provided by a fund created by Dr. George J. Dennis before his death, together with a further contribution made by Mrs. Dennis.

KANSAS

Changes in Health Board.—Dr. Glenn H. Baird, Lawrence, formerly of the U. S. Public Health Service, has been appointed director of venereal disease control for the Kansas State Board of Health, filling the position formerly held by Dr. Regnar M. Sorensen, who was lent to Kansas during the war by the public health service. Dr. Baird graduated at the University of Kansas School of Medicine, Kansas City, in 1940. H. Gilbert Crecelius, Ph.D., has been appointed assistant to Charles A. Hunter, Ph.D., Topeka, director of public health laboratories, Kansas State Board of Health, effective September 1.

The Stormont Medical Library.—The new quarters for this library consist of three rooms on the third floor of the state house, under the supervision of a full time librarian. This library was established through the gift of an endowment fund by Mrs. Jane O. Stormont in memory of her husband, Dr. David W. Stormont, and was designated by law to be a part of the state library. In accordance with the wishes of Mrs. Stormont, it was declared "to be forever free for the people of Kansas and particularly for the medical profession." The Stormont Hospital, Topeka, is named for Dr. Stormont, who graduated at the University of Pennsylvania School of Medicine, Philadelphia, and practiced in Grand View, Ill., until 1862, when he moved to Topeka. He was secretary of the Kansas Medical Society from 1866 to 1877 and president of the society in 1883. At the time of his death Aug. 18, 1887 he was a member of the state board of health, president of the Eastern Kansas District Medical Society and a member of the Judicial Council of the American Medical Association. In 1888 his widow, Mrs. Jane Stormont, presented to the Kansas Medical Society, as a memorial to Dr. Stormont, the nucleus of the Stormont Medical Library and bequeathed an endowment fund of $5,000 for its maintenance. The expense for the maintenance and operation of this library is borne by state appropriations approved by the Kansas legislature. Books and periodicals are purchased with interest from the endowment fund bequeathed by Mrs. Stormont.

LOUISIANA

Personal.—Dr. Gideon D. Williams has been appointed director of the Ouachita Parish Health Center, Monroe. He has been serving in a similar capacity with the East Baton Rouge Parish Health Center.

Medical Toastmasters.—The Medical Toastmasters plan to resume their classes this fall in the Hutchinson Memorial Auditorium, New Orleans. The officers are Dr. Edwin L. Zander, president; Dr. Philip H. Jones Jr., vice president; Dr. Lawrence J. O'Neil, secretary-treasurer; Dr. John A. Colclough, sergeant at arms, and Dr. Charles A. Bahn, deputy, all of New Orleans. The classes sponsored by the group are held to improve one's oratory. There are sixteen lectures in all. Each member of the class is called on to give three minute talks and is quizzed on certain sections of the night's lecture.

MICHIGAN

Fellowships at University Hospital.—Funds for an annual $1,500 fellowship at University Hospital, to be known as the James D. Bruce Saginaw Hospitals Pediatric Teaching and Research Fellowship, were established by the late Dr. Bruce as a means of promoting the utilization of first class hospitals in the training of university medical students, it was announced September 6. Dr. Bruce died September 5.

NEBRASKA

Dr. Poynter Director of Anatomic Research.—Dr. Charles W. M. Poynter, who retired in July after serving as dean of the University of Nebraska College of Medicine, Omaha, for seventeen years, is now carrying on research at the medical school with the title of director of anatomic research.

Full Time Health Director for Omaha.—Dr. Leroy L. Fatherree, director of the local health unit at Lincoln, has been appointed new full time health director of the reorganized Omaha Department of Health, effective about November 1. Other appointments in the new setup include Mr. B. D. Baker, U. S. Public Health Service, Dallas, Texas, as sanitary engineer and Miss Leeta A. Holdrege, executive director of the Visiting Nurses' Association, Omaha, as director of nurses.

NEW JERSEY

Dr. Brokaw Heads New Cancer Control Division.—The New Jersey State Board of Health has created a division of cancer control and appointed Dr. Raymond V. Brokaw chief of the division, effective October 16. Dr. Brokaw was formerly chief of a similar division in the Illinois Department of Public Health, Springfield (THE JOURNAL, May 18, p. 242). The department of health contemplates the development of a statewide cancer control program in close cooperation with the Medical Society of New Jersey and the New Jersey division of the American Cancer Society.

Mobile Eye Clinic.—An eye clinic on wheels was dedicated in special ceremonies in Trenton, October 12, participated in by Governor Walter E. Edge, members of the New Jersey Commission for the Blind and state public health and welfare officials. The unit is said to be the first mobile clinic for providing eye care in remote areas in the country. Nineteen feet long and more than 6 feet wide, the unit contains a refracting chair, refractor, slit lamp and retinoscopes and ophthalmoscopes. Diagnosis of eye diseases, minor treatments and operations along with examination of eyes for glasses can thus be made readily available in all areas. The new eye clinic is somewhat similar to the mobile optical units used overseas during the war by the armed forces.

Appointments to Schering Staff.—Three new appointments to the medical staff of the Schering Corporation, with plants in Bloomfield and Union, have been announced. Dr. Harry A. Senekjie, formerly assistant professor of tropical medicine at Tulane University of Louisiana School of Medicine, New Orleans, has been assigned to the Medical Research Division to carry on special research studies in the field of tropical diseases. Also appointed to the medical research division was Dr. Walter A. Wright, recently principal medical officer of the U. S. Federal Trade Commission, Washington, D. C. Dr. Milton W. Amster, New York, until recently serving in the U. S. Army Medical Corps with the rank of lieutenant colonel has been designated a member of Schering's medical service department.

NEW YORK

New York City

Survey of Handicapped Children.—A survey of the needs of handicapped children attending city schools to determine whether a physical therapy program should be established by the board of education is now under way, the New York *Times* reported September 20. The study is under the direction of Dr. Frank J. O'Brien, associate superintendent of schools in charge of the division of child welfare.

Friday Afternoon Lectures.—The Medical Society of the County of Queens announced its annual series of Friday Afternoon Lectures in its MacNaughton Auditorium. The series is presented by:

Dr. Jacob Sarnoff, Brooklyn, October 25, The Present Status of Plastic Surgery.
Dr. Harold F. LaRue, Brooklyn, November 1, Jaundice Following Cholecystectomy.
Dr. Janet Watson, Brooklyn, November 8, Anemias—Diagnosis and Treatment.
Dr. Emanuel Schwartz, Brooklyn, November 15, Treatment of Bronchial Asthma.
Dr. Frank P. Light, Brooklyn, November 22, Toxemia of Pregnancy.

Recent Advances in Therapy.—The Mount Sinai Hospital of New York will begin a series of lectures on recent advances in therapy November 6 with a talk by Dr. Roy R. Grinker on "Pharmacologic Aids to Psychotherapy." Others in the series will be:

Dr. John G. Gibson 2d, Boston, December 4, Advances in Blood Transfusion Therapy.
Dr. Arthur J. Patek Jr., January 8, The Dietary Treatment of Cirrhosis of the Liver.
George R. Cowgill, Ph.D., New Haven, Conn., January 22, Recent Advances in Our Knowledge of Vitamins.
Dr. Hiram H. Merritt, February 19, The Treatment of Epilepsy.
Dr. Sidney C. Madden, Atlanta, Ga., March 5, Amino Acid Therapy.
Dr. Alvan L. Barach, March 19, Physiologic Therapy in Diseases of Respiration.
Dr. Lester R. Dragstedt, Chicago, April 2, Section of the Vagus Nerves to the Stomach in the Treatment of Peptic Ulcer.
Dr. Edwin B. Astwood, Boston, April 16, The Medical Treatment of Hyperthyroidism.

Study of Steroid Substances.—A grant of $5,000 from the American Cancer Society has been made to the Long Island College of Medicine, Brooklyn, for a study of steroid substances, including male and female hormones. James B. Hamilton, Ph.D., head of the department of anatomy, will direct the program. Assisting in the research will be Dr. George H. Paff, associate professor of the department, and Miss Josephine Kristen and Richard Imagawa, technicians. Part of the work

under the new grant will be conducted at Memorial Hospital under the supervision of Dr. Cornelius P. Rhoads, director of the hospital, and Dr. Konrad Dobriner, a member of the hospital research staff.

WEST VIRGINIA

Actions on Internships and Residencies.—On and after July 1, 1948, interns and residents employed at West Virginia hospitals must be graduates of recognized medical schools. The Public Health Council, at a meeting held recently at Charleston voted to exclude graduates of unrecognized schools from serving internships and residencies at hospitals in this state after that date. This rule will affect contracts made by hospitals on and after Nov. 1, 1946 but will not affect service by interns and residents under existing contracts.

WISCONSIN

New Professor of Preventive Medicine.—Dr. John W. Brown, director of clinical laboratories, University of California Hospital, and assistant professor of medicine, University of California Medical School, San Francisco, has been appointed professor of preventive medicine and director of the department of student health at the University of Wisconsin Medical School, Madison, effective November 1. Dr. Brown, who graduated at the University of California Medical School in 1935, was on war leave from the university from November 1941 to December 1945, serving variously as a member of the Commission on Influenza of the National Research Council, Army Epidemiological Board, and as a consultant in medicine, Letterman General Hospital, U. S. Army, San Francisco. Dr. Brown will utilize the student health service as a demonstration unit for closer correlation of clinical practices with preventive medicine in the broader field of public health. The University of California organized the first of the important health services for university students in this country in 1909, and the University of Wisconsin followed closely in 1910 when the health service was established with Dr. Joseph S. Evans as its director.

Harold Rusch Named Director of McArdle Laboratories.—Dr. Harold P. Rusch, professor of oncology, University of Wisconsin Medical School, Madison, has been appointed director of the McArdle Memorial Laboratory for Cancer Research at the university. Dr. Rusch has been engaged in cancer research since July 1, 1935, when he was appointed a Jonathan Bowman Memorial Fund fellow and research fellow in cancer. Cancer studies at the University of Wisconsin were given impetus in 1934 by the will of the late Miss Jennie Bowman in memorializing her father, Jonathan Bowman. The fund which she established was named the Jonathan Bowman Memorial Fund, the annual income from which is used to defray some of the expenses of cancer research at that university. Then a bequest by Mr. Michael McArdle in May 1935 was an additional step and the McArdle Memorial Laboratory was built using funds from the McArdle grant as well as PWA funds. This laboratory was opened in March 1940. Work in this division is supported in part by the income from the Jonathan Bowman Memorial Fund, by a direct appropriation from the state of Wisconsin of $25,000 annually and by other grants-in-aid of research from national sources.

GENERAL

Medical Mission to Czechoslovakia.—A news item in THE JOURNAL, October 5, page 299, mentioned the praise given to a medical mission sent to Czechoslovakia. The New York *Times*, the source of the news item, did not include the following members of the commission: Dr. Joseph C. Aub, Boston, Dr. Colin McLeod, New York, and Dr. Josef Lazansky, Boston.

Douglas Poteat Joins Cancer Society.—Mr. Douglas Poteat, for two years vice president of the American Red Cross, has been appointed administrative head of the American Cancer Society. He will be succeeded by James T. Nicholson, who has been associated with the Red Cross since 1919 and who for the past year has been vice chairman in charge of insular and foreign operations.

Association of Railway Surgeons.—The fifty-seventh meeting of the American Association of Railway Surgeons will be held at the Hotel Sherman, Chicago, October 29-31, under the presidency of Dr. Jere L. Crook, Jackson, Tenn. Among the speakers will be:

Dr. Irwin Schulz, Milwaukee, Fractures About the Elbow in Children.
Dr. Derrick Vail, Chicago, Early Treatment of Ocular Injuries.
Dr. Richard A. Sutter, St. Louis, Intramedullary Pinning with Kunpsher Nail.
Dr. Lewis M. Overton, Des Moines, Management of Vascular Injuries of the Extremities.
Dr. Edward M. Zucker, Cleveland, The Use of Electroencephalography in the Evaluation of Head Injuries.
Dr. James D. Bisgard, Omaha, The Surgical Management of Peptic Ulcers in Railroad Employees.
Dr. Ralph G. Carothers, Cincinnati, Shoulder Lesions Accompanying Colles's Fractures.
Dr. John H. Alexander, Pittsburgh, Some Problems of the Railroad Surgeon.

Industrial Hygiene Meeting.—The eleventh annual meeting of the Industrial Hygiene Foundation will be held at the Mellon Institute, Pittsburgh, November 7. Among the speakers will be:

Drs. Andrew Fletcher, St. Joseph, Mich., and John F. McMahon, Pittsburgh, Advances in Industrial Health.
Admiral Ben Moreell, Washington, D. C., Production Comes from People.
Dr. Clarence O. Sappington, Chicago, Setting Up and Operating Industrial Health Departments.
Francis R. Holden, Ph.D., Wilkinsburg, Pa., W. C. L. Hemeon, M.S., Pittsburgh, and Theodore F. Hatch, M.S., Philadelphia, Findings from Foundation Plant and Laboratory Research.
Dr. Anthony J. Lanza, New York, and Philip Drinker, LL.D., Boston, Summary of Medical and Engineering Conferences.
R. H. Pass, Management's Opportunity to Advance Occupational Health.
Anna M. Baetjer, Sc.D., Baltimore, A Current Evaluation of Respiratory Ills as an Industrial Problem.
Dr. Ralph S. McLaughlin, Charleston, W. Va., New Methods for Saving Eyes from Chemical Burns.
Theodore C. Waters, Baltimore, Legal Developments Respecting Occupational Health.
J. J. Bloomfield, Washington, D. C., Discussion.
Ben E. Kuechle, Wausau, Wis., Legal and Administrative Handicaps in a Rehabilitation Program.

Central Society for Clinical Research.—The annual meeting of the Central Society for Clinical Research will be held at the Drake Hotel, November 1-2, under the presidency of Dr. Roy W. Scott, Cleveland. Among the speakers will be:

Dr. W. E. Brown and James T. Bradbury, Sc.D., Iowa City, The Influence of Various Diuretics on the Urinary Sodium of Normal Pregnant Women.
Drs. Frederick W. Hoffbauer and Wesley W. Spink, Minneapolis, Biopsy of Liver in Patients with Active Brucellosis: Description of Hepatic Lesions.
Drs. Carl W. Kumpe and William B. Bean, Cincinnati, Aortic Stenosis: An Analysis of 106 Proved Cases.
Drs. Louis N. Katz and Solomon S. Mintz, Chicago, An Analysis of Immediate Mortality in 572 Cases of Recent Myocardial Infarction.
Dr. Alfred Goldman, St. Louis, Pulmonary Arteriovenous Fistula with Secondary Polycythemia Occurring in Two Brothers: Cure by Pneumonectomy.
Dr. Richard M. Johnson, Harry J. Deuel Jr., Ph.D., Margaret G. Morehouse, Ph.D., and John W. Mehl, Ph.D., Los Angeles, The Effect of Methionine on the Urinary Nitrogen in Humans at Normal and Low Levels of Protein Intake.
E. M. Schleicher, Ph.D., and Dr. Elwood A. Sharp, Detroit, Morphology of Bone Marrow.
Drs. Robert T. Thompson and Marion A. Blankenhorn, Cincinnati, Evaluation of the Treatment of Primary Pneumococcic Pneumonia.
Drs. Arthur M. Schoen and Peter K. Knoefel, Louisville, Ky., The Measurement of Human Gastric Function.

World Health Organization in Academy of Medicine.—The World Health Organization will be located temporarily in space provided by the New York Academy of Medicine, 2 East 103d Street, according to an announcement October 14. The arrangement will be until such time as the organization has a permanent home either in this country or abroad. Because of the difficulty in finding space in the city of New York for a temporary period, the World Health Organization appealed to the academy and, by rearrangement of other activities within the academy building, space has been provided in which the Interim Commission of the World Health Organization can carry on its activities. The World Health Organization was established by the International Health Conference convened by the Economic and Social Council of the United Nations. The conference met in New York City, June 19-July 22. The constitution of the World Health Organization, adopted and signed by representatives of sixty-one nations, provides for a broader scope of activity and a potentially more fruitful program than any hitherto attained in the field of world health. Provision was made for continuing the work of existing international health agencies pending their absorption by or integration with the World Health Organization, thus assuring the development of a single international health organization which it is hoped will shortly become universal in scope. An Interim Commission, consisting of the representatives of eighteen governments, was established to carry on necessary international health work pending the ratification of the constitution by a sufficient number of the United Nations to bring the World Health Organization into being. An executive secretary, Dr. George B. Chisholm, Ottawa, Ont., Canada, was appointed by the Interim Commission, and arrangements were made for obtaining funds from the United Nations so that the Interim Commission and its staff might begin to function immediately. In view of the measures taken there need not be any interrup-

tion of essential international health services, protection to health which such services afford being of the greatest importance in this period when the world is being slowly restored to peacetime conditions.

Didactic Course for Ophthalmologists.—The Ophthalmological Study Council announces its second course for persons interested in the specialty of ophthalmology. The course will open at the Hotel Soreno, St. Petersburg, Fla., November 2 and will continue through January 15. A new feature of the second course includes some laboratory and practical work in pathology, anatomy, slit lamp, perimetry and special refraction. These subjects are also covered in the program of instruction. Another interesting feature is that any one wishing to take single subjects may do so. The lectures are drawn from various university and hospital staffs throughout the country. Included among those presenting the basic subjects in the field of ophthalmology will be:

Dr. Joseph Igersheimer, Boston, November 4-12, Sensory Neuro-Ophthalmology Perimetry.
Dr. Herman Burian, Boston, November 13-23, Motor Neuro-Ophthalmology.
Dr. Georgiana Theobald, Oak Park, Ill., November 25-30, General Pathology and Special Pathology.
Drs. Everett Goar, Dallas, Milton Berliner, New York, Robert Masters, Indianapolis, and Harvey E. Thorpe, Pittsburgh, December 2-7, Slit Lamp Biomicroscopy.
Dr. Placidus J. Leinfelder, Iowa City, December 9-11, Practical Perimetry in Sections.
Dr. Algernon Reese, December 12-14, Pathology—Tumors.
Dr. Cecil O'Brien, Iowa City, December 16-21, Surgical Principles, Pathology, Retina, Choroid and Optic Nerve and Ophthalmoscopy.
Drs. Walter B. Lancaster, Boston, Paul Boeder, Southbridge, Mass., and Arthur Linksz, New York, November 4-16, Optics, Visual Physiology.
Drs. S. Judd Beach, James J. Regan, Boston, and Dr. Lancaster, November 18-27, Refraction Theory and Practice.
Dr. Trygve Gundersen, Boston, November 28-December 5, Pathology of Cornea and External Diseases.
Dr. Phillips Thygeson, December 6-14, Bacteriology.
Dr. Albert N. Lemoine Jr., Kansas City, Mo., December 16, Anatomy, Histology, Embryology, Heredity.
Dr. Peter Kronfeld, Chicago, January 1-9, Pharmacology.
Dr. Paul Chandler, Boston, January 10-13, Glaucoma.
V. Everett Kinsey, Ph.D., Boston, January 1-9, Biochemistry.
Dr. Henry Wagener, Rochester, Minn., January 10-15, Medical Ophthalmology and Ophthalmoscopy.

Additional information may be obtained from Dr. Walter B. Lancaster, 520 Commonwealth Avenue, Boston. The Ophthalmological Study Council was organized to assist returning veterans unable to secure admission to overcrowded institutions (THE JOURNAL, January 26, p. 233).

Southern Medical Association.—The fortieth annual meeting of the Southern Medical Association will be held in Miami, Fla., November 4-7, with principal headquarters at the McAllister Hotel. The extensive program includes motion pictures, technical and scientific exhibits, and numerous speakers among whom will be the following:

Dr. Homer L. Pearson Jr., Miami, Multiple Carcinomas of the Uterus.
Dr. Gaylord A. Hart, Dallas, Texas, Relationship of the General Practitioner and the Surgeon.
Dr. Tom D. Spies, Birmingham, Ala., Nutritional Deficiencies.
Dr. Lee E. Sutton Jr., Richmond, Va., Poliomyelitis: The Physician's Approach.
Dr. William H. Kelley, Charleston, S. C., Hepatic Cirrhosis in the Obese.
Dr. Olin B. Chamberlain, Charleston, S. C., Certain Biologic and Sociologic Factors in Involutional States.
Dr. Jose Angel Bustamante, Havana, Cuba, Statistical Comparative Study on Mental Diseases Between Cuba and the United States of America.
Harold Cummins, Ph.D., and Dr. Ralph V. Platou, New Orleans, Mongolism: An Objective Early Sign.
George C. Knowlton, Ph.D., Atlanta, Ga., Retarding Denervation Atrophy.
Dr. Virgil S. Counseller, Rochester, Minn., Vaginal Hysterectomy: Indications and Technics.
Dr. Hector Valle Pineda, Havana, Cuba, Cuban Concept of the Syndrome of Cephalopelvic Insufficiency: Forceps, Symphysiotomy, Cesarean.
Dr. Curtice Rosser, Dallas, New Hemostatic Dressings for Anorectal Surgery.
Dr. Brittain F. Payne, New York, Causes of Failure in Glaucoma Operations.

At the public session Tuesday evening the research medal of the Southern Medical Association will be presented to Dr. William H. Sebrell Jr., chief, division of physiology, National Institute of Health, U. S. Public Health Service, "in recognition of his important contributions to the understanding of nutrition and its relation to public health." Dr. Manye Y. Dabney, Birmingham, president, Southern Medical Association, will deliver the presidential address on "The Conquest of Pain." Other speakers will be Dr. Harrison H. Shoulders, Nashville, Tenn., "The Impact of Scientific Progress on the Economics of Medical Care," and Dr. Jose Ramon Aldereguia, Havana, Cuba. The scientific program will also include a symposium on the integration of the hospital and the teaching and research programs of the school of medicine. Other groups meeting include the National Malaria Society, the American Society of Tropical Medicine, the southern branch of the American Public Health Association and the southern chapter of the American College of Chest Physicians. There will also be a meeting of the Woman's Auxiliary of the Southern Medical Association.

Report on Epilepsy.—The National Association to Control Epilepsy has issued its first progress report since it was founded two years ago under the name Association to Control Epilepsy. During the summers of 1944 and 1945 the association operated a camp for epileptic and nonepileptic children as an experiment in normal living for children with the disease. The program, made possible by a special fund, demonstrated that epileptic children taking medication regularly can live without fear in a normal environment and enjoy the freedom and routine activities of summer camps. In 1944 the association sent 42 children, of whom 25 had epilepsy, to this camp. In 1945 a group numbered 72, of whom 57 had epilepsy. The children came from Virginia, New Jersey and New York. Through a special scholarship fund created by interested persons, 3 children were sent to private schools on full tuition during the 1945-1946 school year. Early this year a survey was begun to benefit epileptic children who are excluded from public schools and are being taught at home by teachers assigned by the New York City Board of Education. Its purpose is to determine how many children now on home training can be placed back in the normal environment of school. The return to school is accomplished through clinical assistance which attempts to bring their seizures under control through medication or attempts to solve personality or behavior problems. This work was undertaken by the New York State and New York City Boards of Education and the Baird Clinic. A further objective is to obtain evidence on which the board of education could standardize its policy with regard to keeping epileptic children in classrooms and returning them to classrooms from home instruction. Such a standardized program also might be adaptable to school programs in other states. The Baird Clinic was established as a pilot clinic through a grant from the David, Josephine and Winfield Baird Foundation, Inc., and is under the sponsorship of the National Association to Control Epilepsy. Its quarters are at 138 East 93d Street, New York. In February 1946 the Maryland and District of Columbia Association to Control Epilepsy became the first local associate cooperating with the national group, and similar associates are being planned elsewhere. The Association to Control Epilepsy was chartered on April 21, 1944 under the University of the State of New York to remove the social stigma and superstition surrounding epilepsy, distribute the most recent information about epilepsy to physicians, other professional personnel, libraries and the public, improve the relationship between the epileptic and the employer and to foster research in epilepsy. On May 22, 1945 the association by charter amendment became the National Association to Control Epilepsy. The Baird Clinic was opened in August 1944 and the association's office at 22 East 67th Street in December 1944. Officers are Mr. David G. Baird, president; Dr. Tracy J. Putnam, vice president; Mrs. Henry H. Denning, executive secretary, and Mr. Spencer B. Witty, treasurer. All are of New York.

Marriages

GOVE HAMBIDGE JR., New Haven, Conn., to Miss Elsie Sims Rickards of Martinsville, Va., in Hamden, Conn., July 6.

WILLIAM A. BRAECKLEIN to Miss Anna Mary Harrison, both of Higginsville, Mo., in Douglass, Ariz., July 15.

EMILIE ANN BLACK to Lieut. (jg) Samuel James Solt, U.S.N.R., both of Washington, D. C., in July.

EUGENE HENRY BETLACH, Sun Prairie, Wis., to Dr. Dorothy Marie Wittmann of Madison, May 28.

ARTHUR F. GILL, Banning, Calif., to Miss Mary Roripaugh of Elsinore in Willows, Dec. 28, 1945.

ANDREW CATINO, Revere, Mass., to Miss Eva Villella of Montreal, Que., Canada, June 12.

EUGENE FLOYD HAMER to Miss Wilhelmina Simmons, both of Morganton, N. C., July 10.

KEITH AULL, Kansas City, Mo., to Miss Lois Williams of Burlingame, Calif., July 27.

FRANCIS S. NORTH, Denver, to Mrs. Eleanor Wolfe Koehler of New York, August 12.

MALIN B. SHAW, Eden, N. Y., to Miss Ruth Gianniny of Rochester, July 13.

Deaths

Samuel Durfey Swope ✦ El Paso, Texas; University of Louisville (Ky.) Medical Department, 1887; born in Henderson, Ky., Nov. 5, 1864; member of the Southern Psychiatric Association; fellow of the American College of Surgeons; specialist certified by the American Board of Psychiatry and Neurology; delegate from New Mexico to the American Medical Association in 1913, 1915 and 1916; served as president of the New Mexico Health Officers' Association; served as surgeon in the New Mexico National Guard; during World War I served overseas as surgeon of the 143d Machine Gun Battalion; during World War II was neurologist and psychiatrist on the medical examining board at the Fort Bliss reception center; major, medical reserve corps, U. S. Army, not on active duty; at one time mayor of Deming, N. M.; consultant in psychiatry for the El Paso City-County Hospital and on the staffs of Hotel Dieu, Masonic Hospital and Southwestern General Hospital; died June 13, aged 81, of coronary occlusion.

John Joseph Shugrue ✦ Washington, D. C.; Georgetown University School of Medicine, Washington, 1919; born in Washington, D. C., June 19, 1893; professor of neurosurgery at his alma mater; member of the Society of Nervous and Mental Diseases of the District of Columbia, the Tri-State Medical Society of the District of Columbia, Maryland and Virginia and the Alumni Association of the Mayo Foundation; fellow in surgery of the Mayo Foundation in Rochester, Minn., from April 1925 to October 1928; consultant on neurosurgery to the army during World War II; served as neurosurgeon to the Providence Hospital, Georgetown University Hospital, Gallinger Hospital, Columbia Hospital and the Emergency Hospital, where he died September 17, aged 53, of carcinoma of the breast.

Ruth Tunnicliff ✦ Chicago; Rush Medical College, Chicago, 1903; engaged in research work at the John McCormick Institute for Infectious Diseases from 1903 to 1940; research worker at the Foundation for Dental Research, Chicago College of Dental Surgery from 1934 to 1940; contributed extensively to the bacteriology of scarlet fever, measles, dental caries and other conditions; past president of the Chicago Society of Pathologists; member of the Society of American Bacteriologists, American Association of Immunologists and the Institute of Medicine of Chicago; died September 22, aged 70, of heart disease.

Arthur Hallam Crosbie, Boston; Harvard Medical School, Boston, 1908; specialist certified by the American Board of Urology, Inc.; member of the New England Surgical Society, American Association of Genito-Urinary Surgeons, serving as vice president, and the American Urological Association; fellow of the American College of Surgeons; served in the U. S. Navy; consulting urologist at the Massachusetts Women's Hospital, Boston, and St. Elizabeth's Hospital, Brighton; surgeon in chief, department of urology, Cambridge City Hospital, Cambridge; died August 23, aged 68.

Ernest Virgil Ackerman ✦ Fredericktown, Ohio; Ohio Medical University, Columbus, 1902; at one time a member of the county board of health; member of the county board of education; died in the Mercy Hospital, Mount Vernon, August 12, aged 71.

Edwin Clark Anderson, Berkeley, Calif.; University of Minnesota College of Medicine and Surgery, Minneapolis, 1897; served during World War I; contact surgeon at quartermasters' headquarters in Oakland during World War II; died in Oakland August 22, aged 73, of coronary occlusion.

Lloyd Crockett Austin, Los Angeles; St. Louis University School of Medicine, 1928; member of the American Medical Association; died July 3, aged 52.

William Wilson Bailey, Cincinnati; Miami Medical College, Cincinnati, 1890; died August 27, aged 82, of cerebral hemorrhage.

William J. Baldwin, Potsdam, N. Y.; McGill University Faculty of Medicine, Montreal, Que., Canada, 1910; member of the American Medical Association; past president of the St. Lawrence County Medical Society; served as a member of the local board of health and as director of the Potsdam Bank and Trust Company; affiliated with the Potsdam Hospital, where he died August 12, aged 66, of diabetes mellitus.

Charles Conrad Aplin Banes ✦ Philadelphia; Jefferson Medical College of Philadelphia, 1909; died August 9, aged 61.

Lee Bast ✦ Delta, Colo.; St. Louis College of Physicians and Surgeons, 1903; past president and secretary of the Delta County Medical Society; on the staff of the Western Slope Memorial Hospital; died July 11, aged 69.

Gilbert H. Beecher, Ansonia, Conn.; McGill University Faculty of Medicine, Montreal, Que., Canada, 1937; served an internship and residency at the Bellevue Hospital in New York; a first lieutenant and captain in the medical corps, Army of the United States, during World War II; died in Durham, N. C., August 29, aged 38, of coronary occlusion.

James Archibald Best, Pendleton, Ore.; Rush Medical College, Chicago, 1894; formerly associated with the Indian Service; served during World War I; formerly mayor of Pendleton, state senator and representative; on the staff of St. Anthony's Hospital, where he died August 18, aged 82.

Nathan M. Blalock, Raleigh, N. C.; College of Physicians and Surgeons, Baltimore, 1890; died in the Rex Hospital August 9, aged 79, of cirrhosis of the liver.

Fountain Miles Blankenship, Hartsville, Tenn.; University of Tennessee Medical Department, Nashville, 1905; member of the American Medical Association; served during the Spanish-American War and World War I; died in July, aged 67.

Sophus L. H. Boolsen, Kenwood, Calif.; Hahnemann Medical College of the Pacific, San Francisco, 1906; died July 24, aged 83.

E. E. Breland, Section, Ala.; Barnes Medical College, St. Louis, 1903; died in Gadsden August 18, aged 73.

John Harvey Bryner, Quentin, Pa.; Columbus Medical College, 1885; member of the American Medical Association; died recently, aged 85.

Mary Buchanan ✦ Philadelphia; Woman's Medical College of Pennsylvania, Philadelphia, 1899; emeritus professor of ophthalmology at her alma mater; specialist certified by the American Board of Ophthalmology; fellow of the American College of Surgeons; consultant to the Norristown (Pa.) State Hospital, Hospital of the University of Pennsylvania and the Woman's Hospital, where she died August 8, aged 76.

Charles Oliver Bulger, Greenfield, Ill.; College of Physicians and Surgeons of Chicago, School of Medicine of the University of Illinois, 1907; member of the American Medical Association; died August 23, aged 66.

Albert Henry Byfield, Los Angeles; Johns Hopkins University School of Medicine, Baltimore, 1907; at one time on the faculty of the State University of Iowa College of Medicine in Iowa City, where he was affiliated with the Children's Hospital; died August 23, aged 65.

Charles Wright Caldwell, Slater, Mo.; Beaumont Hospital Medical College, St. Louis, 1900; member of the American Medical Association; died August 29, aged 72.

Samuel David Carney ✦ Pomona, Calif.; Jefferson Medical College of Philadelphia, 1903; fellow of the American College of Surgeons; a captain in the medical corps of the U. S. Army during World War I; formerly on the staffs of the Methodist, St. Vincent's and St. Joseph's hospitals in Sioux City, Iowa, physician and surgeon for the Southern Pacific Hospital; member of the staff of the Pomona Valley Community Hospital, where he died August 30, aged 68, of cerebral hemorrhage.

Jennie Brookins Clark, Chicago; Woman's Medical College, Chicago, 1887; died in Wilmette, Ill., August 20, aged 84.

George Henry Clulow ✦ Supply, Okla.; Western Reserve University Medical Department, Cleveland, 1912; served during World War I; on the staff of the Western Oklahoma Hospital; died suddenly in Tulsa August 17, aged 66.

Frank Ellsworth Coffey ✦ Hays, Kan.; University of Kansas School of Medicine, Kansas City, 1920; specialist certified by the American Board of Orthopaedic Surgery, Inc.; member of the American Academy of Orthopaedic Surgeons; affiliated with St. Anthony's Hospital; died August 28, aged 55.

William M. Coonfield, Morgantown, Ind.; Medical College of Indiana, Indianapolis, 1897; died in the Morgan County Memorial Hospital in Martinsville, August 26, aged 78, of coronary occlusion.

Norman Copeland, Chicago; College of Physicians and Surgeons of Chicago, School of Medicine of the University of Illinois, 1908; died July 21, aged 68.

Howard Kerr Cowen, Ash Grove, Mo.; University Medical College of Kansas City, 1901; died August 17, aged 77, of arteriosclerosis.

Frank Garnett Cowherd, Cumberland, Md.; University of Maryland School of Medicine, Baltimore, 1908; specialist certified by the American Board of Radiology; member of the American Medical Association, American Roentgen Ray Society and the American College of Radiology; on the staffs of the Allegany and Memorial hospitals; died August 3, aged 61.

Frank Henry Cutler, Salt Lake City; College of Physicians and Surgeons, Baltimore, 1903; member of the American Medical Association; died August 26 aged 75.

James Buchanan Davis, Poplarville, Miss.; Tulane University of Louisiana School of Medicine, New Orleans, 1921; member of the American Medical Association; served during World War I; president of the Poplarville Hospital, where he died August 13, aged 51, of cardiovascular disease.

S. Brock McGeorge Dear, Washington Depot, Conn.; University of Virginia Department of Medicine, Charlottesville, 1908; fellow of the American College of Surgeons; for many years on the staff of the Lawrence Hospital in Bronxville and the Lincoln Hospital in New York; died August 10, aged 62.

Harry Edgar Dees, Bicknell, Ind.; Barnes Medical College, St. Louis, 1908; served during World War I; captain, medical reserve corps, U. S. Army, not on active duty; died in the Veterans Administration Facility, Indianapolis, July 28, aged 64, of coronary thrombosis.

William Peter Derck ✠ Marysville, Mich.; Detroit College of Medicine, 1894; first president of St. Clair County Medical Society; served as health officer; first staff president of the Port Huron (Mich.) Hospital, where he died September 2, aged 79.

Clara Oswald Dunham, Dunedin, Fla.; University of Michigan Department of Medicine and Surgery, Ann Arbor, 1889; died August 22, aged 80.

Albert Wilson Everly, Muskogee, Okla.; Ensworth Medical College, St. Joseph, Mo., 1908; died August 22, aged 72.

Fred Durfee Fairchild, Los Angeles; University of Southern California College of Medicine, Los Angeles, 1906; served during World War I; formerly senior staff surgeon of Methodist Hospital; died August 15, aged 71.

William Meigs Fambrough, Bostwick, Ga.; Georgia College of Eclectic Medicine and Surgery, Atlanta, 1904; member of the American Medical Association; died in St. Joseph's Infirmary, Atlanta, August 15, aged 74.

Samuel Edwin Findley, Mansfield, Ohio; Rush Medical College, Chicago, 1897; member of the American Medical Association; a past president of the Richland County Medical Society; served during World War I; for many years chief surgeon at the Ohio State Reformatory; died July 13, aged 74.

William Andrew Furcron, Norfolk, Va.; Bellevue Hospital Medical College, New York, 1894; died August 21, aged 76.

Arabella Sangster Gault, Tsinan, Shantung, China; Johns Hopkins University School of Medicine, Baltimore, 1924; diplomate of the National Board of Medical Examiners; interned at the Buffalo City Hospital in Buffalo; a medical missionary; at one time associated with the Peking Union Medical College in Peking, China; for many years affiliated with the American Presbyterian Mission, Cheeloo University School of Medicine; died in San Francisco, August 7, aged 47.

Hermann Gustav Germer, Canastota, N. Y.; University of the City of New York Medical Department, 1893; member of the American Medical Association; health officer of the town of Lincoln, Madison County, since 1916; first mayor of Canastota; for many years member and president of the board of education; served during World War I; died September 6, aged 80.

Walter L. Griffin, Cherry Valley, Ark.; College of Physicians and Surgeons, Memphis, 1907; member of the American Medical Association; died in the Baptist Hospital, Memphis, Tenn., August 8, aged 69.

Hans Haugen ✠ Fargo, N. D.; Northwestern University Medical School, Chicago, 1906; on the staff of St. Luke's Hospital; died July 11, aged 70, of coronary thrombosis.

John Andrew Haynie ✠ Durant, Okla.; St. Louis College of Physicians and Surgeons, 1914; at various times president of the Bryan County Medical Society and since 1944 councilor of the Tenth District; medical director of the Haynie Hospital and Clinic, where he died July 29, aged 68.

William Andreas Heap ✠ Arkansas City, Kan.; Chicago Medical School, 1917; formerly affiliated with the Atchison, Topeka and Santa Fe Hospital in Mulvane; died in Canadian, Texas, July 11, aged 57.

Bradbury Holbrook ✠ Waltham, Mass.; University of Pennsylvania Department of Medicine, Philadelphia, 1899; on the courtesy staff of the Waltham Hospital, where he died August 24, aged 74.

Merrill Francis Jones, Canton, Ohio; Ohio State University College of Medicine, Columbus, 1943; interned at the Mercy Hospital; served as a lieutenant and captain in the medical corps, Army of the United States, during World War II; drowned July 20, aged 27.

Ladislaus Roman Kaminski ✠ Detroit; Chicago College of Medicine and Surgery, 1916; served in France during World War I; on the staff of the Providence Hospital; died August 13, aged 57, of coronary thrombosis.

Francis William Kirsch, St. Louis; Homeopathic Medical College of Missouri, St. Louis, 1905; died in Excelsior Springs, Mo., August 21, aged 62, of coronary thrombosis.

Maxwell David Kirsch, Miami, Fla.; Medical Department of Tulane University of Louisiana, New Orleans, 1912; member of the American Medical Association; died at his summer home near Hendersonville, N. C., August 24, aged 64.

Harry Knott ✠ Plymouth, Ind.; College of Physicians and Surgeons of Chicago, School of Medicine of the University of Illinois, 1912; member of the American Society of Anesthetists and the Radiological Society of North America; served overseas during World War I; affiliated with the Parkview Hospital; died August 9, aged 62.

Ernst Krueger, Austin, Texas; University of Arkansas School of Medicine, Little Rock, 1902; died August 23, aged 78, of fracture of the neck of the femur.

Wenceslaus K. Kwiecinski, Detroit; Michigan College of Medicine and Surgery, Detroit, 1890; died in August, aged 78.

Harry Jason Lee, Boston; Boston University School of Medicine, 1904; member of the American Medical Association; fellow of the American College of Surgeons; on the staffs of the Newton-Wellesley Hospital in Newton, Faulkner Hospital and New England Hospital for Women and Children, Boston, and the Cambridge and Chester hospitals in Cambridge; died in Atkinson, N. H., August 7, aged 64, of coronary occlusion.

Henry Holland Leeman, Bonham, Texas; St. Louis College of Physicians and Surgeons, 1898; member of the American Medical Association; served as president of the Fannin County Medical Society; on the staff of the S. B. Allen Memorial Hospital; died June 3, aged 78, of coronary occlusion.

Menard W. Lowrey, Gatesville, Texas; American Medical College, St. Louis, 1897; member of the American Medical Association; served as president and secretary of the Coryell County Medical Society; formerly city councilman and mayor; died May 24, aged 71, of lymphatic leukemia.

William Joseph McAveney, Brooklyn; Long Island College Hospital, Brooklyn, 1898; formerly on the faculty of his alma mater; retired many years ago as supervisor of the bureau of child hygiene of the department of health of New York City; served on the staffs of the Long Island College and Harbor hospitals; died in St. Mary's Hospital August 29, aged 70, of arteriosclerotic heart disease.

Cecil L. McClanahan, Spickard, Mo.; College of Physicians and Surgeons, Keokuk, Iowa, 1898; died August 16, aged 71.

John Lavender McDaniel, San Fernando, Calif.; University of Georgia Medical Department, Augusta, 1883; member of the American Medical Association; for many years surgeon for the Southern Railroad; died July 20, aged 87, of pneumonia.

Louis Edwin McKee, Altoona, Pa.; Jefferson Medical College of Philadelphia, 1908; member of the American Medical Association; school physician for many years; during World War I served as examining physician for Altoona draft board number 1 and on the medical staff of the city army induction center; died July 27, aged 61.

Andrew Joseph McNamara, Cleveland Heights, Ohio; University of Wooster Medical Department, Cleveland, 1896; died August 23, aged 74.

Elmer Ellsworth McPeck, Sebring, Fla.; Starling Medical College, Columbus, 1889; died June 10, aged 83.

Gregory Nicholas Maximov, San Francisco; University of Tomsk Faculty of Medicine, Russia, 1911; for many years on the staff of the University of California Hospital, where he died July 27, aged 60.

George Clark Mayhew, Mancelona, Mich.; Grand Rapids Medical College, 1906; died August 20, aged 72.

Stanley Smith Meck, Milan, Ohio; Hahnemann Medical College and Hospital of Philadelphia, 1927; diplomate of the National Board of Medical Examiners; member of the American Medical Association; died August 4, aged 44.

Ephraim Rufus Miller, Harrisonburg, Va.; Medical College of Virginia, Richmond, 1898; on the staff of the Rockingham Memorial Hospital, where he died August 31, aged 73, of carcinoma of the colon.

Claud Edward Norris ✦ Eureka, Calif.; Barnes Medical College, St. Louis, 1907; at one time affiliated with the Philippine Islands Health Department, serving as senior health inspector; died August 31, aged 67, of carcinoma of the lung.

Gordon Phillips, Haskell, Texas; University of Texas School of Medicine, Galveston, 1933; member of the American Medical Association; served during World War II; died in the Hendricks Memorial Hospital, Abilene, August 22, aged 39, of epidural abscess following lobar pneumonia.

Nathan Poliakoff ✦ Williamson, W. Va.; University of Georgia Medical Department, Augusta, 1916; served during World War I; physician for the Pond Creek Colliery of the Norfolk and Western Railway; died August 31, aged 51, of heart disease.

James D. Robinson, Elizabethton, Tenn.; Lincoln Memorial University Medical Department, Knoxville, 1913; killed instantly August 11, aged 60, of injuries received when the automobile in which he was driving overturned.

John E. Rutledge, Festus, Mo.; Keokuk (Iowa) Medical College, 1896; member of the American Medical Association; served as president of the Jefferson County Medical Society and board of education; county and city health officer; died August 26, aged 75, of cerebral hemorrhage.

Simeon Edward Sanchez ✦ Barwick, Ga.; Atlanta College of Physicians and Surgeons, 1901; founded the first bank in Barwick and served as mayor; owner of the Sanchez Private Sanitarium; affiliated with the Archbold Memorial Hospital in Thomasville and the Brooks County Hospital in Quitman; died July 16, aged 67, of coronary disease and Banti's disease.

Ara Nathaniel Sargent ✦ Salem, Mass.; Harvard Medical School, Boston, 1893; for many years affiliated with the Salem Hospital, where he died August 26, aged 78, of coronary thrombosis.

Otto John Seibert ✦ Cincinnati; Long Island College Hospital, Brooklyn, 1909; fellow of the American College of Surgeons; formerly secretary of the Cincinnati Academy of Medicine; served as editor of the *Cincinnati Journal of Medicine*; from 1933 to 1935 president of the staff of the Deaconess Hospital, where he was director of the gynecologic service and where he died August 22, aged 59, of a cerebral lesion, probably a neoplasm.

John Semple Sharpe ✦ Haverford, Pa.; University of Pennsylvania Department of Medicine, Philadelphia, 1903; died in the Bryn Mawr (Pa.) Hospital, May 3, aged 68, of carcinoma of the head of the pancreas.

Bryant Josephus Shaw, Slate Spring, Miss.; Memphis (Tenn.) Hospital Medical College, 1904; member of the American Medical Association and the state board of health; on the visiting staff of the Houston (Miss.) Hospital, where he died August 6, aged 67, of hypertensive heart disease.

Ferdinand Shryman, Concordia, Mo.; Beaumont Hospital Medical College, St. Louis, 1896; member of the American Medical Association; member of the city board of health; served as a member of the school board; died August 25, aged 79, of mitral regurgitation.

William Henry Smith, Louisville, Ky.; Louisville National Medical College, Medical Department State University, 1906; served during World War I; died August 5, aged 74, of carcinoma of the prostate.

Simon J. Snider ✦ Bruin, Pa.; Medico-Chirurgical College of Philadelphia, 1897; for many years school inspector; veteran of the Spanish-American War; died July 6, aged 74, of arteriosclerosis.

Charles P. Snyder, Manor, Pa.; Jefferson Medical College of Philadelphia, 1902; member of the American Medical Association; on the visiting staff of the Westmoreland Hospital in Greensburg, where he died August 27, aged 73, of heart disease.

Elsie Louise M. Specht, Fairview, Okla.; Kansas City Hahnemann Medical College, 1905; member of the American Medical Association; died in the Enid (Okla.) General Hospital August 20, aged 64, of heart disease.

Ralph T. W. Statler, Allentown, Pa.; the Hahnemann Medical College and Hospital, Chicago, 1901; died August 24, aged 70, of cerebral hemorrhage.

Jesse J. Stephan, Kansas City, Mo.; University Medical College of Kansas City, 1896; member of the American Medical Association; died in St. Mary's Hospital August 22, aged 71, of hypertensive cardiovascular disease.

Daniel Butler Stevenson, Lumberton, Miss.; Medical Department of Tulane University of Louisiana, New Orleans, 1904; member of the American Medical Association; medical director and owner of the City Hospital, where he died August 26, aged 70, of injuries received when struck by the husband of a patient.

Henry Milton Stewart, Hutchinson, Kan.; Rush Medical College, Chicago, 1898; honorary member of the Kansas Medical Society; member of the American Medical Association; coroner of Reno County; on the staffs of St. Elizabeth Mercy Hospital and the Grace Hospital, where he died August 15, aged 73, of coronary thrombosis.

Charles E. Thompson, Mingo, Ohio; University of Tennessee Medical Department, Nashville, 1893; county health commissioner and county coroner; died in Cable July 12, aged 73, of injuries received when the automobile in which he was driving was struck by a train.

Josiah D. Thurmon, St. Louis; Barnes Medical College, St. Louis, 1904; member of the American Medical Association; past president of St. Louis County Medical Society; formerly member of the school board of Normandy; died in the Park Lane Hospital August 26, aged 75, of coronary heart disease.

James McCaw Tompkins ✦ Richmond, Va.; Medical College of Virginia, Richmond, 1906; served as associate professor of medicine at his alma mater, where he was a member of the board of visitors and member of the executive committee; member of the Richmond Academy of Medicine; since 1929 president of the Johnston-Willis Hospital; died August 23, aged 63, of coronary thrombosis.

Asa Mitchell Townsdin, Jamestown, Kan.; Kansas City (Mo.) Medical College, 1903; member of the American Medical Association; served as mayor and on the staff of St. Joseph's Hospital in Concordia; died July 9, aged 66, of Hodgkin's disease.

Clinton M. Tracy, Sentinel, Okla.; Gate City Medical College, Dallas, Texas, 1906; member of the American Medical Association; died August 8, aged 70, of heart disease.

William Joseph Turner, Ashburn, Ga.; Atlanta Medical College, 1893; member of the American Medical Association; president of the Turner County Medical Society; served during World War I; died in the Archbold Memorial Hospital, Thomasville, June 10, aged 77, of uremia.

Warren Hugh Twining, Aspen, Colo.; Gross Medical College, Denver, 1900; member of the American Medical Association; state senator; county health officer; medical superintendent of the Citizens' Hospital; died July 7, aged 70, of coronary thrombosis.

Thomas Henry Wall, Scooba, Miss. (licensed in Mississippi in 1901); Spanish-American War veteran; died August 20, aged 67, of heart disease.

Charles Hodge Wallace, St. Joseph, Mo.; Bellevue Hospital Medical College, New York, 1883; member of the American Medical Association; at one time professor of clinical surgery at the Ensworth Medical College; member of the Western Surgical Association; fellow of the American College of Surgeons; served two terms in the state legislature; past president of the city park board; died in the Missouri Methodist Hospital August 27, aged 88, of bronchopneumonia.

Andronicus Junia Wells, Calera, Okla.; Barnes Medical College, St. Louis, 1902; member of the American Medical Association; served as president of the Bryan County Medical Society and the Southeastern Oklahoma Medical Association; died July 25, aged 71, of cerebral hemorrhage.

Harry White, Sharon, Pa.; Baltimore Medical College, 1912; member of the American Medical Association; served during World War I; on the staff of the Christian H. Buhl Hospital; died July 2, aged 72, of coronary disease.

George Andrew Wilson, Stillwater, N. Y.; McGill University Faculty of Medicine, Montreal, Que., Canada, 1924; member of the American Medical Association; health officer of the consolidated health district of Stillwater; school physician; on the staffs of the Saratoga Hospital in Saratoga Springs and the Leonard Hospital in Troy, where he died August 25, aged 47, of nephritis.

Forrest Z. Winchell, Buffalo, Okla.; College of Physicians and Surgeons, Medical Department of Kansas City University, 1902; member of the American Medical Association; died in the Wesley Hospital, Wichita, Kan., July 22, aged 68, of cerebral hemorrhage.

Foreign Letters

LONDON

(From Our Regular Correspondent)

Sept. 29, 1946.

Simulation of Acute Condition in Abdomen by Infection of Perirenal Fat

A new abdominal syndrome has been described in the *Lancet* (August 24, p. 267) by two army medical officers, B. W. Goldstone and H. S. Le Marquand. The syndrome appears to be due to acute staphylococcic infection of the perirenal fat, which usually does not progress to suppuration but is abortive. They observed 13 cases in Europeans admitted to a military hospital in West Africa. A youth aged 20, was admitted with a diagnosis of acute cholecystitis. He had severe pain in the right upper part of the abdomen and right shoulder, which came on in a few hours. Extreme rigidity and moderate tenderness were found in the right upper part of the abdomen. The temperature was 100 F., pulse rate 80 and respiratory rate 20. The diagnosis lay between perforated peptic ulcer and pleuropneumonia. But the gradual onset and pyrexia did not support the former diagnosis, and signs of the latter condition were lacking. The authors felt justified in waiting a few hours, and by then there was remarkable improvement. After twenty-four hours the patient's condition was normal. X-ray examination showed normal lung fields, but the right diaphragm moved less than the left.

The features of the syndrome were (1) gradual onset of symptoms, reaching a peak in a few hours, (2) pain in the right upper abdominal quadrant, sometimes spreading to the whole right abdomen and loin, (3) considerable rigidity with less tenderness in the same area, (4) usually diminished movement of the right part of the chest and the diaphragm, sometimes with shoulder pain, (5) a rapid change in symptoms and signs, particularly in the situation of the pain and (6) spontaneous rapid improvement in most cases, which excluded a surgical emergency. Perforated peptic ulcer was excluded by the gradual onset, often with pyrexia, the unimpaired liver dulness and absence of subphrenic gas radiologically. Appendicitis was excluded because of the usual prominence of the signs in the right upper abdominal quadrant and the absence of the usual sequence of umbilical pain, nausea or vomiting followed by pain in the right iliac fossa. Gallbladder disease and acute pancreatitis were excluded because they are uncommon in persons of military age, there was no previous history suggesting gallstones and cholecystograms were negative.

The nature of the syndrome was not understood until a man aged 26 was observed who complained of malaise on May 18. Two days later he had right subcostal pain. The temperature was 101.4 F. Next day he was admitted with the same temperature, right subcostal pain and rigidity without hyperalgesia. There was some pain on pressure in the loin. On the 22d he was improved but the temperature rose to 103 F. During the next week there was slight improvement. The leukocyte count was 21,000. Sulfathiazole was given. The rigidity disappeared, and on June 7 a hard knobby mass was felt in the position of the right kidney. A diagnosis of perirenal abscess or renal carbuncle was supported by slight scoliosis with concavity to the right, absence of the psoas shadow on x-ray examination and defective filling of the lower calices of the right kidney in an intravenous pyelogram. The right kidney was exposed and there was a gush of pus containing Staphylococcus aureus in pure culture. The kidney was adherent to the diseased perirenal fat. Recovery was uneventful. This case suggested perirenal infection, which, spreading slowly in the silent perirenal fat, would produce dramatic symptoms on reaching the peritoneum. In the cases of recovery without suppuration the staphylococcic infection would be abortive. Why only the right side was affected remains unexplained.

The Future of Hospital Service: The Government Threat to Control

The intention of the government to take over control of the voluntary hospitals as part of the National Health Service has caused much misgiving among physicians. At present these hospitals, to which are attached all the medical schools, are quite free from state control. Sir Alfred Webb-Johnson, president of the Royal College of Surgeons, put the position very well in an address at the annual meeting of the Nelson Hospital. "Many of us," he said, "have taken the view that it was undesirable, or at least unnecessary, to change the ownership of hospitals in order to secure an integrated service. But if Parliament decides otherwise, then we must concentrate our thoughts and efforts on preserving under a state service that atmosphere of freedom in which so much has been achieved for the advancement of medical science." He believed that the hospitals would gain if the freedom given to the teaching hospitals was extended not only to the hospital management committees but also to individual hospitals. Local interest and support would thus be retained, and opportunities for donors and for funds would be greatly extended. Relieved of anxiety for all ordinary expenditure and of the need for begging, their energies could be directed to the support of initiative and new developments. He hoped that Parliament would allow the largest measure of local responsibility for the planning and conduct of hospitals. There must be freedom for independent practice as well as whole time salaried service. In specialist work the natural place for independent practice was within the hospitals. It would be a retrograde step if it should be dispersed into separate clinics. Some hospitals should be free to stay outside the national scheme.

The Special Education of Defective Children

The Ministry of Education has issued to local education authorities directions on the provision of suitable education for children suffering from disability of mind or body. At any time after the age of 2 years a parent may ask to have a child examined to see if he requires special education and, if so, the authority must provide it if desired. Children at school suspected of a disability will be medically examined, by specialists if necessary. In the light of the report, the authority will consider what kind of special education should be given. In serious cases this will be provided in a special day or boarding school, and in other cases arrangements will be made in the ordinary school. For example, partially deaf children should have courses of lip reading at school when recommended by the school medical officer. These children should be carefully watched and if they fail to progress should be sent to special schools. For delicate children there is need of more boarding schools, but some provision can be made for them in the newer hygienic primary and secondary schools, where meals and milk are available. When rest after dinner is recommended, stretcher beds and blankets should be provided.

The educationally subnormal children, including those formerly known as "educable mental defectives," and dull or backward children form the largest category requiring special education. The number may be as high as 10 per cent. In the larger urban areas day and boarding schools will be required, and arrangements will also be necessary in the ordinary schools. In almost all schools of moderate size facilities will be required for at least a small group of children. These should not be segregated from the other children or from the corporate life of the school. But they will need special help in certain parts

of their work. The staff should experiment with enterprising methods and organization for dealing with the problem.

In all types of area there will be a small number of educationally subnormal children who require to be taken away from their homes and educated in a boarding or special school. These include unstable children, children from unsuitable homes, those who are truants or unmanageable in a day special school and those committed to the care of the authority by the courts. In no case should a child recognized as ineducable be allowed to attend school. In the past this has been allowed on sentimental grounds. But one detrimental low grade child can create havoc in a class, distract the other children and occupy the full attention of the teacher. For maladjusted children child guidance clinics should be established and more education psychologists should be appointed. For certain children boarding out arrangements should be made with carefully chosen foster parents. The ministry has also made suggestions for the education of physically handicapped children, blind and partially sighted children and children with speech defects.

PARIS

(From Our Regular Correspondent)

Oct. 5, 1946.

Poliomyelitis in France

Some epidemic centers of poliomyelitis, about 50 cases, have been reported in the "Cote d'Or" district. There have also been less important centers in the "départements" of Loiret, Cher, Saone-et-Loire, Seine-et-Oise and Yonne. This has been a seasonal recrudescence of this disease, but of much less importance than the 1943 epidemic. It consisted in rough encephalic and meningitic forms. Thanks to the import of monkeys last year the Pasteur Institute is in possession of a stock of serum; on the other hand, the Ministry for Public Health has also an important reserve of convalescents serum imported from America. Prophylactic measures have been taken: prohibition of bathing in common, of large gatherings of children, and control of holiday organizations.

The Congress on Penicillin

The first congress of its kind in France met under the patronage of the minister for public health. Numerous civilian, military and naval doctors took part. Professor Lemierre studied the utilization of penicillin in septicemia by demonstrating that in several cases in which up to now the prognosis has been fatal it has become favorable. Professor Donzelot spoke on endocarditis, Dr. René Martin on penicillin in meningitis and Dr. Marquezy on its use in pediatrics. Professor Clovis Vincent stated, among other things, how, thanks to penicillin, the prognosis and surgical treatment of cervical abscesses have taken quite a new turn. Professor Cadenat and Professor Portes discussed surgical postabortion disorders. Professor Tzank explained the part played by penicillin in syphilis and dermatology, Professor Fey spoke on genitourinary disorders and blennorrhagia; communications have been made on penicillin in stomatology, ophthalmology and otorhinolaryngology. Professor Trefouel, director of the Pasteur Institute, has read to the members of the congress a paper on the comparative action of sulfonamides and penicillin. He also organized practical demonstrations of the extraction of penicillin from the urine of patients treated with this product. Up to now, penicillin has been used only in specialized treatment centers. By an order of the ministry for Public Health and as from the 15th of October 1946, it will be delivered to the public, on the production of a prescription, by druggists having at their disposal the required means of preservation.

Miscellaneous

The Academy of Surgery has commemorated the death of Dr. Walter Edward Dandy of the Johns Hopkins Hospital of Baltimore, who was a foreign associate of the Paris academy.

SWEDEN

(From Our Regular Correspondent)

STOCKHOLM, Oct. 1, 1946.

State Physicians Threaten Strike

There are in Stockholm two imposing monuments to the hopes and failures of Swedish social medicine, which no socially minded tourist wants to miss. Both of them are a must on the program of visitors, who never fail to be suitably impressed by the overwhelming array of technical accessories assembled there, the imposing laboratories, the well equipped kitchens, the operating theaters, the intricate signal systems, chromium plate, marble, glass and stainless steel.

These are the two gigantic hospitals which in recent years have at great cost been erected in Stockholm; one, Sodersjukhuset, built by the city of Stockholm, a tremendous pile of concrete and steel silhouetting the skyline of the south of the capital, and the other the great central state complex Karolinska Sjukhuset (Caroline Hospital) on the northern outskirts of the city. Both may in a manner of speaking be regarded as the main props under the structure of social medicine in Sweden.

It is doubtful that any hospitals ever built have been subjected to more thorough technical planning. In the City Hospital, for instance, there was hardly a detail that was not completely studied and tested in a sort of medical pilot plant set up for the purpose of trying out the functional shape and design of such things as lavatories, water closets, bed pans and the million other details which at tremendous cost to the taxpayers were accumulated there. In fact, nothing was forgotten in the planning except the patient.

As examples of medical engineering there are hardly any better show places in Europe. As hospitals they apparently leave much to be desired. It seems as if little consideration has been given to the human aspects of hospital organization, with rather grotesque results. There is a wealth of gadgets, but the bureaucratic personnel policy has led to there being no one available to push the buttons that make the gadgets work. Indeed, for lack of nurses, assistants and other help, some critically needed departments have had to close. At the Caroline Hospital there is a beautifully equipped laboratory that has never been used since the building was erected for lack of laboratory workers. In those sections open to the public the overworked and underpaid medical and nursing staffs have been reduced to impersonal robots, with rather unfortunate results to the patients. The waiting time for the polyclinics is growing daily, and some unfortunates will have to wait on the long lines of misery for days on end.

Seldom in Swedish medical history has medical care been reduced to such unpleasant standards as during the present phase of Swedish social medicine. The social legislation has run amok and seems to have lost contact with reality in the way of available resources in plant, doctors and nurses, and the socialists have pinned all their faith in shiny instruments and moving machinery in a manner generally characteristic of culturally illiterate and materialistic people. Hospital technicians have created medical factories for them crammed full of shiny things and then left them understaffed to the detriment of the patients. Under these conditions the best these unfortunates can wish for is to be sent home as soon as possible. And that is exactly what happens to them. A patient whose knee has been operated on may be jerked out of bed and sent home in less than twenty-four hours after the operation has taken place. Maternity patients are turned out just a few days after delivery, merely to mention a couple of all too common everyday practices.

The well publicized Swedish social medicine has now reached a point where the doctors at the state Caroline Hospital and another state hospital have had to threaten a strike in order to call attention to their poor working conditions. On October 1, 118 physicians at these two Stockholm hospitals threaten to leave their position, thereby throwing the entire hospital world

in Stockholm into chaos. The formal reason is to all outward appearances a petty one, although it is intimately tied up with the bureaucratic red tape associated with social medicine here. There has grown up a paper jungle of statements, affidavits and whatnots, which the physicians must make out for their patients. In the past the doctors have been permitted to charge a nominal sum for the paper work and thus managed to eke out a small extra income. The government now plans to deny them these fees. It is to be noted here that most Swedish doctors leave medical school in debt, and the resident physicians at the hospitals are so badly paid that they have to keep on borrowing until approaching middle age, simply to meet the interest charges on their loans. The salaries paid are wholly inadequate for any decent standard of living, and the trifling amounts obtained from doing this paper work, largely unnecessary from a medical and professional point of view, are without a doubt a welcome help in an otherwise rather hopeless economic predicament.

This scandalous situation is unique, and the conflict has been preceded by lengthy negotiations between the Swedish Medical Association and the government departments directly involved. A determined action was actually planned in 1939, but the war intervened. During the negotiations with the government the doctors were told they could have an increase in pay, which in many cases would have balanced the extra fees concerned. However, they fear that should they accept this offer the red tape would rise to enormous proportions and seriously influence medical standards. The politicians have succeeded in blowing it up into a constitutional question, claiming that the government cannot undo a decision already made by Parliament. The legal advisers of the striking doctors claim, however, that the whole matter can be settled without constitutional tangles. Be that as it may, in a city where the normal hospital situation is getting increasingly chaotic owing to lack of personnel, about 1,500 beds in the two hospitals will be left unattended and the patients either turned out or moved elsewhere.

This is the situation on the night of October 1. By the time this is published the threatened strike will perhaps have been settled or else a last minute compromise found deferring the final decision. However, from a public point of view it is of minor interest how this conflict is settled. The strike is but one symptom among countless others of the sorry state of Swedish social medicine. In fact, it is no longer medicine. It is medical engineering, a totalitarian assembly line attended by badly paid robot specialists cutting out appendixes at a mass production rate of $4.98 apiece. It has come to a sad pass when an enlightened and scientifically trained person can in all seriousness exclaim "Well, as for myself, give me an old fashioned quack when I get ill. From him I can at least expect some modicum of human feeling and personal sympathy."

New Cure for Tuberculosis Being Tested

Not long ago mention was first made of a new drug for the treatment of tuberculosis, called PAS, short for para-amino-salicylic acid, the raw material for which was obtained from the Swedish forests and gas works. Since then nothing more has been said during the course of experimentation, but now some of the results of this research have been published and seem rather encouraging. Professor Jorgen Lehmann of Gothenburg is the leader of the investigations, the raw material for which is being produced at the Ferros factory in Malmo. PAS is based on American research on the tubercle bacillus, which revealed that the respiration of the bacillus is stimulated by benzoic and salicylic acid. On this basis Professor Lehmann is attempting to produce a chemical which can inhibit the chemical processes of this respiration and perhaps even the growth of the bacilli. Because of its small molecular size PAS can penetrate through the tissues into the tuberculous tissue and cavities in the lungs, but owing to its rapid elimination it must be administered several times a day to obtain an adequate concentration in the blood. After encouraging results on guinea pigs, clinical experimentation is now being undertaken by Dr. Gylfe Vallentin of Gothenburg. Thus far the results have shown improvement in general condition, temperature, blood level, x-rays and presence of bacilli. It has also been observed that the patients' condition has deteriorated when the drug has been discontinued and improved again with renewed administration. All these results have been published with hesitation, both because of the necessity of far more clinical investigation and because of the general conservatism of Swedish scientists in making any claims before definite proof has been established.

Swedes Produce Hormones from Wood

The manufacture of hormones from wood is now revealed as a new development in Swedish technical science. For almost a year the Swedish Cellulose Company has been producing a raw material which has been further treated by the Stockholm Drug Pharmacy and foreign drug companies as well for the preparation of hormones. The raw material is pine, the by-product phytosterols, obtained during the production of sulfate pulp. It has long been known that phytosterols are present in wood, but naturally technical difficulties stood in the way of obtaining the pure product and producing it on a large scale. Experimentation is also going on in the United States, but the Swedes claim to have come further along and to have constructed the first large factory and the only one of its kind in the world for the purpose. The method of manufacture has been worked out by the Cellulose Company's engineers and research workers, and the final product is a white, odorless, crystalline powder. It is hoped that this will replace the expensive and now difficult to obtain cholesterol, from which sex hormones have been chiefly produced. Phytosterols are one of the most refined products ever obtained from wood, and it is obvious that the process involved is highly complicated. Nevertheless the company claims that it is able to produce enough at its one factory to supply the present and future needs of the entire world.

Unemployed Medical Refugees May Ease Shortage of Physicians

Despite the great shortage of doctors in Sweden there are now about 200 refugee physicians here who are not permitted to practice medicine or even assist in giving any sort of medical care. The Swedish Medical Board has now set a date for a conference of representatives of the board, various hospitals and medical association and government officials, who will take up the plan worked out last winter, but never used, as to how best to utilize these men and their ability.

Most of the foreign physicians are now employed in archive work or filing or something similar. The plan as it now stands, and it admittedly needs revising, states that in order to be licensed these men need to take courses in various forms of medicine as well as intern for a while. This would probably take about two years to accomplish.

Of the doctors in this category who are now in Sweden, about 120 are former Esthonian citizens. Ten of these were dentists who have been permitted to do a small amount of socialized dental work. Several more, who helped with medical care in the refugee camps during the war, have obtained a limited license for practice among their own countrymen, and a few more have been able to obtain permission to substitute occasionally in hospitals. The rest are still waiting and hoping for an opportunity to take up again the profession for which they were trained and in which they are so badly needed just now.

Swedish Factory to Make Penicillin

Sweden's first plant for the production of penicillin is now in the process of construction in Stockholm. It is expected to produce sufficient quantities of the drug for the use of Sweden and possibly enough for export. The building will probably be ready about the first of the year.

Correspondence

EXPERIENCE WITH SPECIFIC BACTERIOPHAGES PARALLELING ITS USE IN TYPHOID

To the Editor:—In Dr. W. A. Reilly's discussion of the treatment of typhoid with type specific bacteriophage (THE JOURNAL, September 21, p. 134) he expresses the wish that other physicians might verify the preliminary report. From extensive work with specific bacteriophages against staphylococcic, streptococcic and Escherichia coli infections between 1933 and 1937 I can substantiate the observations reported.

It was found that infections caused by these organisms (such as septicemias, carbuncles, furunculosis, cellulitis, acute osteomyelitis, pyelitis and peritonitis) responded far better therapeutically when the bacteriophage was developed on the actual infecting organism than when a stock phage was used.

To obtain a potent specific bacteriophage in adequate amounts quickly, a simple technic was developed—easy to do if one but has a stock phage with which to begin (Goldsmith, N. R.: A Procedure for the Preparation of Autogenous Bacteriophage for Therapy, in Gradwohl's Clinical Laboratory Methods and Diagnosis, St. Louis, C. V. Mosby Company). By this method, treatment with a specific bacteriophage could be started as early as four hours after the isolation of the infecting organism, and within twenty-four hours any desired quantity potent in dilutions as high as one to a billion could be propagated.

Unlike the reported method of giving only one intravenous injection, I administered bacteriophage by a variety of routes—repeated intravenous injections, intraspinally, wet dressings, continuous baths and irrigation of body cavities. The method and frequency depended on the site of infection and the clinical response.

Such response paralleled that reported in typhoid. In successful cases there was a fairly uniform sequence: 1. A sharp rise in temperature as high as 106 F. 2. A violent chill and profuse sweating followed by a drop to subnormal levels which would remain for two or three days. 3. A rise in the total white blood cell count to 30,000 or more. There would be rapid general clinical improvement, lessening of pain and increased appetite.

With the advent of the sulfonamides and antibiotics, bacteriophage has seemed a weaker sister—but now, even in this atomic age of penicillin and streptomycin, there may yet be a place for the natural "eater of bacteria."

NORMAN R. GOLDSMITH, M.D., Lancaster, Pa.

CAROTID SINUS SYNDROME

To the Editor.—In THE JOURNAL, September 7, an editorial discusses the differentiation of the mechanisms responsible for the attack of carotid sinus syndrome, stating that "the type of carotid sinus reflex mechanism responsible for the symptoms in a case can be determined by observing the heart rate or the blood pressure during an induced attack and by the use of atropine sulfate or ephedrine. A solution of epinephrine sulfate given intravenously in a dose of 1 mg. abolishes the vagal reaction within three minutes but does not alter the depressor or the cerebral reaction."

It is apparent that atropine sulfate rather than epinephrine sulfate was intended in the last sentence for the reasons that (1) epinephrine is not prepared as the sulfate, (2) while atropine sulfate abolishes the vagal reflex and does not affect the depressor or cerebral reaction, epinephrine does influence both the vagal and the depressor reactions and (3) epinephrine in a dose of 1 mg. intravenously can result in a severe and possibly a fatal effect. In relation to the last point, I wish to call attention to unpublished experiments during the course of studies on the action of drugs on the carotid sinus reflex (*Arch. Int. Med.* **51**: 387 [March] 1933, **54**:111 [July] 1934). By the method described in these studies it was possible to compare quite accurately the effects of epinephrine administered intravenously with those following a subcutaneous injection.

In a subject in whom cardiac standstill could be produced consistently by pressure on the carotid sinus, 0.01 to 0.2 mg. doses of epinephrine were given intravenously. After these doses of epinephrine the standstill was abolished by the development of an ectopic pacemaker, and the rate of this pacemaker was proportional to the dose administered. Thus after an intravenous injection of 0.2 mg. the maximum rate of the pacemaker was 110, after 0.05 mg. the rate was 60 and after 0.01 mg. the rate was 30. When 1 mg. of epinephrine was injected subcutaneously, the maximum rate of the ectopic pacemaker was 60. This indicates that after the injection of 1 mg. of epinephrine subcutaneously there is at no time more than one twentieth of this amount in the circulation. This is of course due to the fact that epinephrine in a subcutaneous deposit is very slowly absorbed because of the vasoconstriction resulting from the drug.

Although most drugs can be administered intravenously in approximately the same dose as is given subcutaneously, it is obvious that this does not apply to epinephrine. I have seen alarming reactions on the cardiac mechanism following 0.2 mg. of epinephrine intravenously. This, in the light of the experiments cited, is to be expected, since this amount is four times the concentration in the blood following the administration of 1 mg. (1 cc. of 1:1,000 solution) subcutaneously. Theoretically it would require the enormous doses of 20 mg. of epinephrine subcutaneously to produce the effect of 1 mg. intravenously.

MORRIS H. NATHANSON, M.D., Los Angeles.

COLD PACKS SUGGESTED AS PROTECTION FOR TESTES IN MUMPS

To the Editor:—The relationship between the temperature of the scrotal area and the condition of the testis tissue has been clearly determined in both lower animals and man as far back as 1924 by a number of classic experiments by Dr. Carl Moore of the University of Chicago and a number of abnormal conditions of the testis as recorded in the medical literature.

Testis tissue subjected to normal body temperature in those biologic forms with functioning scrotal sacs show definite degeneration of the seminiferous tubules with a resulting state of sterility. The normal position of the testes in the scrotal sac maintains the testes at a temperature ranging from 2 to 8 degrees lower than body temperature, depending on the species of animal and on atmospheric conditions. In the case of natural cryptorchids when one or both testes fail to descend into the scrotal sac, degeneration occurs and sterility is the result. In experimental cryptorchids, when the testis is pulled into the abdominal cavity and secured there, a normally perfect testis shows tubule degeneration after being subjected to the higher temperature for a number of days. The Japanese scientist Fukui reported that temporary sterility occurred among Japanese men after sitting in their habitual extremely hot baths or from exposure to the heat of an arc light. Another experiment by Dennis Mayer of the Missouri Agricultural Experiment Station showed that testis degeneration is produced in rams which have their testes surrounded and packed in wool batting to raise the temperature of the scrotal area to that of the body temperature. Experiments by Dr. Browman in which fresh mouse testicles were placed at 4, 20 and 37-38 C. showed that the testicles kept at 37-38 C. had the most severe changes, while those at 4 C. were essentially normal.

It is evident that there is high correlation between rise in temperature and degeneration of testis tissue. While doing a little armchair philosophizing I thought of all the foregoing and the relationship to sterility which results in one third of adult human males suffering from orchitis in mumps. In such orchitis there is a definite rise in temperature of the testes, as attested by physicians. I believe that this condition could without a doubt be alleviated by subjecting the adult male mumps patient to an immediate and continuous cold pack of the testis area. Fukui found that if the region of an experimental cryptorchid testis is cooled artificially the testis elevated into the abdomen will remain in a normal condition, whereas the opposite testis also elevated but remaining uncooled will be highly degenerate. The suggestion I make is not supported by any direct experimental evidence.

In a recent letter to the editor of THE JOURNAL I suggested this method of cold pack application to adult male mumps patients to save them from possible sterility, and he suggested "the desirability of carrying on clinical investigations in some acceptable hospital or institution where investigations of diseases like mumps are being carried on." Perhaps an investigator in this position can take this clue and evolve a practicable method of reducing the incidence of this type of sterility.

ALFRED NOVAK, M.S., East Lansing, Mich.
Contribution No. 4, Department of Biological Science,
Michigan State College.

Bureau of Investigation

THE CROLEYS OF DENVER ACCUMULATE FRAUD ORDERS

Sex-Weakness, Baldness, Painful Feet, Constipation and What Not "Cured" By Mail

In Denver the Victor Croleys—man and wife—have figured in sundry fraudulent deals. They have kept the Post Office Department busy tracking down and suppressing their mail-order schemes.

Victor Croley's first venture into the realm of medical fakery appears to have been some "Secrets from India" which he promoted for sexual rejuvenation. The "secrets" wouldn't work; the Post Office Department accordingly debarred the scheme from the mails by issuing a fraud order against Croley and his high-sounding trade styles. The action was reported in this department of THE JOURNAL May 5, 1945, page 51.

THE FEMININE TOUCH

Next were two additional fraud orders against mail-order enterprises promoted by Croley, along with his wife, who used her maiden name, Dale Hilden, and was also known as Adelia H. Croley. These were the Harmore Company and the Arden Press, both doing business from Denver. The first-named sold what it represented as a complete course of instructions for using a "tested method" to restore hair, as set forth in a forty-page booklet, "How To Have a Full, Healthy Head of Hair." There was the usual "unconditional money-back guarantee," accompanied by "before-and-after" pictures which Croley later admitted were photographs of himself, the former showing shorter hair and a hair line which had receded from the forehead, and the latter showing longer hair, without such receding. The booklet seems to have consisted largely of generalizations on the hair, plus a few specific dietary instructions, particularly as to eating foods rich in iron, sulfur and silicon. There were also instructions for brushing the hair, giving it sunlight and avoiding tight hats, besides applying hot and cold packs to the head to "improve circulation," and exercising the head and neck.

At the hearing of the case in Washington a senior medical officer of the Food and Drug Administration, in lengthy testimony, pointed out the various causes for thinning hair and baldness which, when once entrenched, cannot be easily counteracted, even by enriching the diet with minerals. The hearing brought out further that, though the Croleys claimed that the booklet in question was sold only on approval and that hence any possibility of false or fraudulent pretenses, representations and promises in that connection would be unlikely, nevertheless the courts have held that fraudulent representations made through the mails are no less a violation of the mail-order statutes because of a guaranty to refund the purchase price if the purchaser is dissatisfied. Croley and his wife neither appeared at the hearing nor sent counsel to represent them. Dale Hilden, the Harmore Company and their officers and agents were accordingly debarred from further use of the mails on Feb. 20, 1945.

FROM HEAD TO FOOT

On the same day a fraud order was issued against the Arden Press of Denver (another promotion of the Croleys) for selling by mail a course of treatments represented to eliminate foot difficulties, as set forth in a booklet entitled "Successful Home Treatments for Troubled Feet." The booklet was said to represent that the treatments included "a simple and sure way to raise fallen arches," to do away with the necessity of arch supports, to offer a permanent cure of bunions and permanently remove "abhorrent foot conditions," thus making "lame feet once more strong, normal and free from pain," regardless of the age and concomitant physical condition of the persons afflicted.

At the hearing of this case held in Washington a senior medical officer of the Food and Drug Administration testified for the government that there are many diseases and disorders, such as arthritis, gout, diabetes, syphilis, varicose veins and other generally debilitating conditions, which cause pain and discomfort in the feet, and that without the removal of these causes the foot disorders cannot be cured. He testified further that the exercises and other treatment prescribed in the booklet would not be effective for fallen arches, bunions or other more serious foot disorders. The Croleys did not attend the hearing but did reply to the charges by letter. Since this, however, contained no single statement which attempted to justify the misrepresentations that their advertising literature made for the treatments and did not disprove the charges against them, the Arden Press and its officers and agents were declared to have promoted a fraudulent scheme and, on Feb. 20, 1945, were denied further use of the mails.

AND MORE OF VICTOR

Croley's name also figured in a fourth fraud order, dated May 13, 1946, though it was not issued against him but against the trade styles of Consol Company and Vita-Service, also of Denver. These were two names for a single business which was run by one Katherine Grinstead. Under the Consol trade style she sold through the mails a book, "How to Have Lasting Relief from Constipation," and as Vita-Service she similarly promoted another work, "Auto-Hypnosis." Persons who inquired about the first-named were sent descriptive literature, soon followed by material on the second-named work.

The book on constipation, according to Miss Grinstead, was written by one Charles B. Roth and sold to her by Victor A. Croley, which is not surprising, considering his record as a promoter. The Post Office Department produced evidence that the sale of these two books by various misrepresentations constituted a scheme to defraud, and the Consol Company and Vita-Service and their officers and agents were debarred from further use of the mails.

So far, Victor Croley's name has figured in four mail-order frauds ranging from sex rejuvenation through hair-growing and treating fallen arches to curing constipation, and his wife has been party to two of these. Hint to the Croleys: In case you've run out of ideas, there are still lush possibilities in fake "bust developers," "fat reducers" and "wrinkle removers"—until one gets caught!

Bureau of Legal Medicine and Legislation

MEDICOLEGAL ABSTRACTS

Medical Practice Acts: Treatment of Acne as Practice of Medicine.—The defendant, a licensed cosmetologist, was convicted of practicing medicine without a license and appealed to the Supreme Court of Michigan.

The prosecuting witness, having trouble with her complexion, went to the defendant's office, which was designated by a sign at the stairway entrance and on the office door as the "Clear Skin Institute." Inside was the defendant's name followed by the letters "N. D.," and there were several diplomas on the wall. Defendant asked the witness a number of questions concerning prior sicknesses and bowel and menstrual regularity and made arrangements for her to be treated twice a week at five dollars per treatment. The witness then received a registration card which stated:

> I, Neil E. Gilbert, Director of the Clear Skin Institute, hereby agrees to treat Miss Betty Jane Heil for a period of thirty days from the above date under the following conditions:
>
> There shall be no further payments made by her during this period and, in event that no improvement is shown in her complexion during this period, I shall refund all and any monies paid to date for five visits or treatments already received.
>
> Miss Heil and members of her family shall be the sole judge as to whether or not there has been any improvement. However, if there is improvement, Miss Heil will pay me for whatever visits she received up to that date.
>
> (Signed)
> Neil E. Gilbert.

On the back of this card was the following:

> You are accepted for the "Dermedic Method" of "Skin Clarification," by the Foundation, under the following conditions:
>
> Appointments should be met at the appointed time, to avoid the possibility of overcrowding.
>
> If unable to keep your appointment kindly telephone TEmple 1-7800 and a new appointment will be made for you.
>
> Two consecutive appointments missed without notice cancels this registration.
>
> This registration covers "Skin Clarification" only. No medical service or advice is rendered hereunder.
>
> Clear-Skin Foundation
> 10 West Warren cor. Woodward
> Detroit, Michigan
>
> TEmple 1-7800

The defendant informed the witness that she had acne and that he could cure her. Thereafter the witness received five treatments during two different weeks but her condition did not improve. The treatments consisted of using a lamp and some salve, except the last one, during which the defendant extracted or opened some pimples or blackheads on the witness's face. Following this treatment, which hurt her face, she called up the medical association and learned for the first time that the defendant was not a doctor of medicine. During the course of her treatments, defendant's assistant called him "Doctor." The designation N.D. was on diplomas in his office. After the witness learned that defendant was not registered to practice as a doctor, she went again to his office accompanied by her sister.

> I asked him if he wanted to see me. He said "Yes, he heard I had been checking up on him," as he put it, and I said "I had." And, I said, and I said—I asked him if he was a doctor. He said "yes, he was." I said "The Wayne County Medical Society didn't know anything about it." He said "Well, he is a doctor of naturopathy, and so we were there about two and one-half hours, and he offered to give me back five dollars, but I didn't want it.

This testimony was corroborated by the sister, who testified that during the course of the conversation the defendant had first said he was a doctor, then he said he was not a doctor, then that he was a doctor of naturopathy. There was also testimony that during the treatments the defendant instructed his assistant to apply certain ointments or medicines, that she did so, that the defendant used an instrument to remove the blackheads and that he gave the witness soaps to take home and a medicine or ointment to apply on her face at night. At no time during her visits was any reference made to his being a beauty operator or cosmetologist or anything other than a physician or a medical doctor. There was nothing in defendant's place of business to indicate that he was a cosmetologist, such as beauty tables, manicure tables, hair driers or any of the usual instruments found in a so-called beauty parlor. There was testimony regarding the confusion caused by the similarity between the designations "N.D." and "M.D."

At the close of the peoples case the defendant moved to dismiss on the ground that the people had failed to prove a case of practicing medicine without a license. The motion was denied. The defendant then introduced considerable testimony as to the practice of cosmetology and produced witnesses who testified that they were well pleased and satisfied with the methods and results of the defendant's treatment. The prosecution called as a witness a licensed physician and surgeon, a specialist in dermatology, who testified that acne, "ordinarily spoken of as pimples," is a human ailment which would be classified as a disease. He said that papular acne might be quite similar to secondary syphilis, hard to differentiate even by an ordinary physician without special training in dermatology; "it certainly would require a physician to treat those diseases."

The medical practice act of Michigan provides that any person who practices medicine or surgery without a license shall be guilty of a misdemeanor and defines the term "practice of medicine" as:

> the actual diagnosing, curing or relieving in any degree, or professing or attempting to diagnose, treat, cure or relieve any human disease, ailment, defect or complaint, whether of physical or mental origin, by attendance or by advice, or by prescribing or furnishing any drug, medicine, appliance, manipulation or method, or by any therapeutic agent whatsover.

The court said that the argument seemed to be whether the defendant was practicing cosmetology under a license or practicing medicine without a license. The jury found in favor of the prosecution. The Supreme Court held that the jury had been properly instructed concerning both the practice of medicine and the practice of cosmetology and that the jury's findings were based on ample evidence. The judgment of conviction was accordingly affirmed.—*People v. Gilbert, 20 N. W. (2d) 205 (Mich., 1945).*

Medical Examinations and Licensure

COMING EXAMINATIONS AND MEETINGS

BOARDS OF MEDICAL EXAMINERS BOARDS OF EXAMINERS IN THE BASIC SCIENCES

Examinations of the boards of medical examiners and boards of examiners in the basic sciences were published in The Journal, Oct. 19, page 408.

NATIONAL BOARD OF MEDICAL EXAMINERS

National Board of Medical Examiners: *Part II.* Dec. 16-17. *Part III.* Boston, Nov. 19-21. Sec., Mr. Everett S. Elwood, 225 S. 15th St., Philadelphia 2.

EXAMINING BOARDS IN SPECIALTIES

American Board of Anesthesiology: *Oral.* Los Angeles, 2d week in April. Sec., Dr. P. M. Wood, 745 Fifth Ave., New York.

American Board of Dermatology & Syphilology: *Oral.* Cleveland, Dec. 5-7. Sec., Dr. George M. Lewis, 66 E. 66th St., New York 21.

American Board of Internal Medicine: *Written.* Feb. 17. Final date for filing applications Nov. 1. Sec., Dr. William A. Werrell, 1 W. Main St., Madison, Wis.

American Board of Obstetrics & Gynecology: *Written. All Groups. Part I.* Various centers, Feb. 7. Final date for filing application is Nov. 1. Sec., Dr. Paul Titus, 1015 Highland Bldg., Pittsburgh 6.

American Board of Ophthalmology: *Oral. All Groups. Parts I and II.* New York, June 1947. Final date for filing application is Dec. 1. Chicago, October 1947. Final date for filing application is March 1. Sec., Dr. S. J. Beach, 56 Ivie Rd., Cape Cottage, Me.

American Board of Orthopaedic Surgery: *Part II. Oral.* Chicago, January. Final date for filing application is Nov. 1. Sec., Dr. Francis M. McKeever, 1136 W. Sixth St., Los Angeles 14.

American Board of Urology: *Oral.* Chicago, February 1947. Final date for filing application is Nov. 15. Sec., Dr. Gilbert J. Thomas, 1409 Willow St., Minneapolis 4.

Current Medical Literature

AMERICAN

The Association library lends periodicals to members of the Association and to individual subscribers in continental United States and Canada for a period of three days. Three journals may be borrowed at a time. Periodicals are available from 1936 to date. Requests for issues of earlier date cannot be filled. Requests should be accompanied with stamps to cover postage (6 cents if one and 18 cents if three periodicals are requested). Periodicals published by the American Medical Association are not available for lending but can be supplied on purchase order. Reprints as a rule are the property of authors and can be obtained for permanent possession only from them.

Titles marked with an asterisk (*) are abstracted below.

American J. Digestive Diseases, Fort Wayne, Ind.

13:213-244 (July) 1946

Present Trends in Mucous Colitis. H. Gauss.—p. 213.
Outline for Treatment of Peptic Ulcer. E. P. Lasher Jr.—p. 221.
Studies of Effects of High Lipid Diets on Intestinal Elimination: III. Unsaturated Glycerides, with Special Reference to Triolein. Helen L. Wikoff, W. R. Hoffman and Jean Caul.—p. 228.
Benign Ulcer of Cecum. C. D. L. Cromar.—p. 230.
Correlation of Intestinal Protozoa and Enteric Micro-Organisms of Known and Doubtful Pathogenicity. O. Felsenfeld and Viola M. Young.—p. 232.
Jejunal Cancer—Case Report. I. Braun.—p. 234.
Medical Management of Pyloric Obstruction Resulting from Peptic Ulcer. S. A. Seley.—p. 238.

American Journal of Medical Sciences, Philadelphia

211:641-768 (June) 1946

Hereditary (?Sex Linked) Anemia. R. W. Rundles and H. F. Falls.—p. 641.
Blood Changes Related to Sulfonamide Therapy: I. Aplastic Anemia Associated with Sulfonamide Therapy. Helen M. Denny and Maud L. Menten.—p. 659.
Id.: II. Granulocytopenia Associated with Use of Sulfonamides. Maud L. Menten and Esther Graff.—p. 666.
Id.: III. Treatment of Granulocytopenia with Folic Acid and Pyridoxine Hydrochloride. Maud L. Menten, with technical assistance of Esther Graff.—p. 672.
*Variations in Susceptibility to Therapeutic Malaria. F. T. Becker, L. I. Kaplan and H. S. Read, in collaboration with M. F. Boyd.—p. 680.
Interference Dissociation—Early Finding in Acute Rheumatic Fever. I. Stein and A. G. Bartlett.—p. 686.
Changes in Cardiovascular System in Scrub Typhus in Early Convalescence. W. Likoff.—p. 694.
Eighteen Hour Concentration Test of Kidney Function. E. M. Isberg and L. H. Newburgh.—p. 701.
Relationship Between Packed Red Cell Volumes and Lymphocyte Counts. Edith E. Little and H. N. Munro.—p. 705.
*Sedimentation Rate as Aid in Diagnosis of Acute Poliomyelitis. M. J. Fox and J. R. Evrard.—p. 707.
Epidemiologic Significance of Amplitudes of Seasonal Fluctuation in Infectious Diseases. W. L. Aycock, G. E. Foley and K. H. Hendrie.—p. 709.
Penicillin Treatment of Acute Syphilitic Nephrosis and Iritis: Case. H. A. Tucker.—p. 718.
*Salmonella Suipestifer Infection in Children: Report of 18 Cases. J. A. Jones and H. F. Lee.—p. 723.
Incidence of Palpable Pulsations in Convalescent Trench Foot: Analysis of 500 Patients at an Army General Hospital. L. A. M. Krause, J. J. Wallace and J. J. Silverman.—p. 729.
Basal Metabolism in Childhood: Current Progress. I. J. Wolman.—p. 733.
Puerperal Infection. J. H. E. Woltz.—p. 743.

Variations in Susceptibility to Therapeutic Malaria.—Becker and his associates present their experience with therapeutic malaria in 300 members of the army who had various types of neurosyphilis. They think that Negroes should be routinely inoculated with quartan malaria. Vivax malaria is a satisfactory means of inducing fever in the treatment of white patients with neurosyphilis, provided they have never had natural malaria. Of 43 white patients who came from the southeastern United States 80 per cent were susceptible to vivax malaria. Of the 11 failures all except 1 gave a history of having chills or fever sometime during their lives. Of those from the rest of the United States, 93 per cent were satisfactorily treated with vivax. Persons from the United States who give a history of a previous natural infection and those from the Mediterranean and Puerto Rico should be inoculated with quartan malaria. White persons who experience a spontaneous remission from a primary vivax inoculation before receiving a clinically adequate amount of fever should be reinoculated with quartan malaria if they have experienced five or less paroxysms, or a heterologous strain of vivax if they have experienced more than five paroxysms. Daily determinations of the parasite blood level are extremely helpful in following the course of the infection with regard to severity, degree of the patient's resistance and the early forecasting of an immune response.

Sedimentation Rate in Diagnosis of Poliomyelitis.—Fox and Evrard studied the sedimentation rate of 76 patients hospitalized because of suspected poliomyelitis. Only 21 had an increase of either one or both determinations, and 11 had elevations up to 4 mm. The remaining 10 had elevations of from 5 to 25 mm. above normal, and 4 of these had concurrent disorders to account for the high elevation. Thus there were only 6 patients in whom an increased sedimentation rate could not be explained. Uncomplicated poliomyelitis apparently has a fairly constant, normal sedimentation rate. The sedimentation rate may be used as an aid in the differentiation of poliomyelitis from bacterial diseases. There is no correlation between the white blood cell count, the spinal fluid count and the sedimentation rate.

Salmonella Suipestifer Infection in Children.—Jones and Lee report observations on 18 patients with Salmonella suipestifer infections admitted to the Children's Hospital of the University of Pennsylvania in Philadelphia during the past eight years. Vomiting occurred in only 4 patients, while there were 9 who had diarrhea. One of the patients had gross blood in the stools. There were 12 patients with infection of the respiratory tract. Among these there were 9 with otitis media, in 2 roentgenoscopy revealed bronchopneumonia and in 3 physical examination disclosed pulmonary signs. None of the patients developed infections of bones or joints. Blood cultures were positive in 14 of the 17 patients. There were 2 deaths in this group. One of these patients had bilateral polycystic kidneys, while the other was a premature infant who had diarrhea at home for a week before admission. Treatment of suipestifer infections include parenteral administration of fluids and electrolytes in the severe cases with diarrhea. The administration of sulfathiazole or sulfadiazine, although indicated on the basis of experimental data, produced no effects that could be directly ascribed to it. The available antibiotic substances are not effective against Salmonella organisms, but the effectiveness of streptomycin is under investigation. This substance seems more promising against Salmonella organisms than compounds previously tested.

American Journal of Pathology, Ann Arbor, Mich.

22:665-866 (July) 1946

*Necrotizing Arterial Lesions Resembling Those of Periarteritis Nodosa and Focal Visceral Necrosis Following Administration of Sulfathiazole: Case. L. Lichtenstein and L. J. Fox.—p. 665.
*Hypersensitivity in Pathogenesis of Histopathologic Changes Associated with Sulfonamide Chemotherapy. A. J. French.—p. 679.
*Pathology of Sulfonamide Allergy in Man. R. H. More, G. C. McMillan and G. L. Duff.—p. 703.
Experiments with Jaagsiekte. N. Dungal.—p. 737.
Chronic Leptomeningitis and Ependymitis Caused by Ustilago, Probably U. Zeae (Corn Smut): Ustilagomycosis, Second Reported Instance of Human Infection. M. Moore, W. O. Russell and E. Sachs.—p. 761.
Systemic Infantile Toxoplasmosis. H. R. Pratt-Thomas and W. M. Cannon.—p. 779.
Pathologic Findings in Lungs of 5 Cases from Which Influenza Virus Was Isolated. F. Parker Jr., L. S. Jolliffe, Mildred W. Barnes and M. Finland.—p. 797.
Significance of Hyperemia Around Tumor Implants. D. R. Coman and W. F. Sheldon.—p. 821.
Mediastinal Chorionepithelioma in Male: Case. O. Hirsch, S. L. Robbins and J. D. Houghton.—p. 833.
Medial Hyperplasia in Pulmonary Arteries of Cats. C. T. Olcott, J. A. Saxton and W. Modell.—p. 847.
Cephalothoracopagus Monosymmetros: Case. J. U. Gunter.—p. 855.

Arterial Lesions Following Sulfathiazole.—Lichtenstein and Fox describe changes observed at necropsy in a case of hypersensitivity to sulfathiazole which had been introduced into a clean surgical wound made in the course of an open reduction of a subcoracoid dislocation. The patient developed on the ninth postoperative day a chill, elevation of temperature to 103 F. and a vesicular skin eruption. Sulfathiazole was again admin-

istered on the mistaken premise that there was a wound infection possibly associated with septicemia. The patient died three weeks after the operative intervention with manifestations of uremia, evidence of severe hepatic damage and hyperbilirubinemia. The significant pathologic changes were (1) necrotizing arterial lesions resembling those of periarteritis nodosa in the kidneys, liver, spleen, gallbladder, adrenal glands, uterus and oviducts, (2) focal visceral necrosis in the myocardium, liver, lungs, spleen, gallbladder, pancreas and elsewhere, (3) severe parenchymatous degeneration of the liver and kidneys and (4) acute fibrinous pleuritis and patchy bronchopneumonia. This case appears to be the first recorded instance of a fatal hypersensitivity reaction in which the initial sensitization was brought about by the introduction of a sulfonamide compound into a clean surgical wound. Failure to recognize the clinical manifestations of hypersensitivity to the sulfonamides (fever, chill, a skin eruption of hemorrhagic, vesicular or bullous character, and failing renal function on or shortly after the seventh day following the administration of sulfonamides) may have serious consequences. Because sulfathiazole appears to be the principal offender in respect to hypersensitivity reactions, the indiscriminate use of this drug for minor infections or for prophylaxis seems ill advised. Sulfadiazine is preferable for enteral or parenteral use, and sulfanilamide for wound implantation.

Histopathologic Changes with Sulfonamide Therapy.—French observed striking histopathologic changes in the material from 76 necropsies and in 2 additional specimens of skin taken for biopsy from patients who apparently had been sensitized to sulfonamides. Characteristic acidophilic histiocytes were present in focal and diffuse infiltrations in the heart, liver, kidney, lung, spleen, lymph nodes, bone marrow, skin, testis, intestine, gallbladder, prostate, urinary bladder, skeletal muscle, thyroid, aorta and meninges. Significant vascular lesions were characterized by fibrinoid necrosis, endothelial edema and proliferation. Interstitial pneumonitis and hemorrhage by diapedesis in the pulmonary alveoli were attributed to sulfonamide sensitivity. Focal subendocardial, subepicardial and subpelvic renal hemorrhages were associated with typical acidophilic histiocytic infiltrates. Sulfonamide crystals combined with calcium deposition were demonstrated in and adjacent to the distal convoluted and collecting renal tubules. Evidence of individual susceptibility to initial and repeated courses of the sulfonamide group of drugs has accumulated in the literature and is substantiated by this series of cases. Sensitization of large groups of patients with prophylactic doses of sulfonamide drugs may result in an increase in the number of histopathologic lesions encountered at necropsy. Many of these lesions were significant as causes of death. Increased caution must be observed in the prophylactic and therapeutic use of the sulfonamide drugs for minor infections.

Sulfonamide Allergy.—In 375 necropsies of patients who had received sulfonamides, More and his associates observed 22 cases with lesions attributable to sulfonamide medication. These lesions were regarded as severe enough to cause death in 7 cases, were major factors contributing to death in 7 additional cases and were apparently of negligible importance in the remaining 8. Among these 22 cases examples of the majority of the commonly reported sulfonamide lesions were found. In addition to these a granulomatous reaction that has been reported but rarely was found to be the lesion of highest incidence, occurring in 13 cases. A unique lesion, a splenic trabecular necrosis and inflammation, was found in 6 cases. The evidence that the latter lesions were caused by sulfonamide therapy consists in the lack of other demonstrable causes, their coexistence with recognized sulfonamide lesions and, in the case of the granulomas, their experimental production with sulfadiazine. It was found that all lesions invariably combined necrosis of the tissues involved with activity of the reticuloendothelial system. This similarity of the structural alterations indicated a fundamental pathogenesis common to all the lesions. The association of all types of lesions described with clinical evidence of sulfonamide hypersensitivity, and the essential identity of these lesions with those produced in animals by various investigators by foreign protein sensitization led to the conclusion that the lesions were always an expression of allergy.

Archives of Neurology and Psychiatry, Chicago

56:1-132 (July) 1946

*Observations in Case of Muscular Dystrophy, with Reference to Diagnostic Significance. R. E. M. Bowden and E. Gutmann.—p. 1.
Effects of 1(+)Glutamic Acid and Other Agents on Experimental Seizures. L. S. Goodman, E. A. Swinyard and J. E. P. Toman. —p. 20.
Sensation of Electric Shock Following Head Injury. N. Reider.—p. 30.
Neuropsychiatric Observations on Tsutsugamushi Fever (Scrub Typhus). H. S. Ripley.—p. 42.
*Permeability of Blood Spinal Fluid Barrier in Infants and in Normal and Syphilitic Adults. F. Kalz, Helen Friedman, Anne Schenker and Isobel Fischer.—p. 55.
Use of Quantitative Parasite Inoculation Doses in Plasmodium Vivax Malaria Therapy. L. I. Kaplan, H. S. Read and F. T. Becker. —p. 65.
Resistance to Insulin in Mentally Disturbed Soldiers. H. Freeman. —p. 74.
*Histopathologic Changes in Cerebral Malaria and Their Relation to Psychotic Sequels. S. Arieti.—p. 79.

Muscular Dystrophy.—Bowden and Gutmann report 1 case of progressive muscular dystrophy in a man aged 42 and 1 case of peroneal muscular atrophy in a boy aged 15. Examination of 4 biopsy specimens showed varying degrees of atrophic change. Atrophy was slight or absent in the peroneus longus and more advanced in the extensor digitorum longus muscle, and in the two specimens of the tibialis anterior muscle it was of extreme degree. The early changes consist in a reaction of the nuclei and the granular constituents of the sarcoplasm. In the later stages there is complete dedifferentiation of the striated material, leading to fragmentation of the muscle fibers accompanied with a breakdown of the chromatin of the nuclei. The late changes in dystrophic muscle fibers are identical with those observed in the final stages of denervation atrophy. In the authors' case of progressive muscular dystrophy the nerve fibers in the nerve trunks remained intact, but degeneration of the muscle fibers apparently led to loss of contact at the myoneural junction, and this was followed by abortive regeneration of the terminal nerve fibers. Advanced atrophy in the muscle fibers, intact large intramuscular nerve trunks and abortive terminal regeneration of the nerve fibers were characteristic features of this case of progressive muscular atrophy, being considered as primary myopathy. In cases of the so-called secondary myopathies, such as the authors' second case of peroneal muscular atrophy, the nerve trunks are empty or contain both normal fibers and empty Schwann tubes. They may occasionally contain regenerated nerve fibers. This may indicate that some of the anterior horn cells have not undergone irreversible changes but are capable of sending out new axons. Biopsy of muscle with study of the pattern of innervation is recommended for establishing the diagnosis in unusual cases of muscular atrophy and weakness.

Blood Spinal Fluid Barrier in Infants.—Kalz and his associates performed Walter's bromide test on 22 nonsyphilitic infants between the ages of 3 weeks and 18 months, in 14 adults between the ages of 20 and 55 years, referred to as "normal adults" without clinical or laboratory evidence of neurosyphilis, and in 40 adults between the ages of 27 and 67 years with neurosyphilis. The values of the permeability of the blood-spinal fluid barrier for normal infants were significantly lower than those for adults and were comparable to the values for adults with neurosyphilis. The increased permeability of the barrier between the blood and the spinal fluid in infants may explain the positive Wassermann reaction of the spinal fluid of infants with congenital syphilis who otherwise show no evidence of neurosyphilis clinically or with laboratory tests. This increased permeability of the barrier may permit the passage of reagin from blood into the spinal fluid. It is suggested that positive Wassermann reactions of the cerebrospinal fluid of syphilitic infants should not be considered proof of neurosyphilis in the absence of other evidence.

Cerebral Malaria.—Arieti reports 2 cases of cerebral malaria due to Plasmodium falciparum in a man aged 22 and in a boy aged 6 years. Both patients were in a state of coma on admission to the hospital and died within a few hours. Necropsy revealed external hydrocephalus. Microscopic changes were more pronounced in case 1. Numerous small hemorrhages were particularly frequent in the subcortical white matter and in the

molecular layer of the cerebellar cortex. The hemorrhages occurred where the circulation was slowed down on account of the large quantity of pigment or where emboli, consisting chiefly of pigment and parasites, endothelial cells and clotted red cells, had completely occluded the vessels. The red blood cells appeared to extravasate by a process of diapedesis from a vessel located at the center of a hemorrhagic area. They soon disappeared from the center of the area, giving the false impression that they came from neighboring collateral capillaries. Subsequently the red cells disappeared completely and demyelination occurred in the same area. At the same time peripheral proliferation of glia took place. Thus nodules were formed which did not present inflammatory characteristics and for which the term "malarial pseudogranuloma" is suggested. In case 1 axonal degeneration of ganglion cells also was shown. Other changes in both cases were proliferation and desquamation of vascular endothelium, acute swelling of and ischemic changes in nerve cells and hypertrophy and hyperplasia of the glia cells. Though the stage of hyperthermia and the toxicosis were considered responsible for some of the changes, the severest pathologic changes were attributed to the mechanical action of the pigment and of the emboli. The histopathologic changes associated with cerebral malaria are considered at times the direct cause of the mental syndromes and at other times only precipitating factors. The possibility of a malarial origin of psychotic or psychopathic symptoms in a veteran returning from a malarial district should always be investigated.

Archives of Otolaryngology, Chicago

44:1-128 (July) 1946

Selection of Hearing Aids. R. Carhart.—p. 1.
Office Study of Cilia. D. G. Ornston.—p. 19.
Nonexperimental Pathologic Nasal Findings in Laboratory Rats. G. Kelemen and F. Sargent.—p. 24.
Thyroxin Therapy in Otosclerosis. H. P. Schenck.—p. 43.
Odontoma of Nasopharynx. G. McClure.—p. 51.
Effect of Labyrinthine Reflexes on Vegetative Nervous System: Review. E. A. Spiegel.—p. 61.
Advances in Understanding of Rhinologic and Otologic Conditions Related to Nervous System: Critical Survey of Literature. W. P. Eagleton.—p. 73.

Blood, New York

1:273-366 (July) 1946

Present Status of Folic Acid. L. J. Berry and T. D. Spies.—p. 271.
*Treatment of Liver Extract Sensitivity. S. O. Schwartz and Helen Legere.—p. 307.
*Rupture of Spleen in Infectious Mononucleosis: Clinicopathologic Report of 7 Cases. E. B. Smith and R. P. Custer.—p. 317.
Infectious Mononucleosis Complicated by Spontaneous Rupture of Spleen and Central Nervous System Involvement. S. L. Vaughan, J. S. Regan and K. Terplan.—p. 334.
Infectious Lymphadenosis ("Mononucleosis") and Thrombocytopenic Purpura; Recovery After Splenectomy: Report of Case. W. Dameshek and M. A. Grassi.—p. 339.
Experimental Leukocytosis: Inefficacy of P-Chloroxylenol and Methyl Acetamide as Bone Marrow Stimulants. L. M. Meyer.—p. 343.
Excretion of Urobilinogen in Stools and Urine During Malarial Infection. A. de Vries, with technical assistance of F. Schiffer.—p. 348.

Treatment of Sensitivity to Liver Extract.—With the increasing use of parenteral liver extract, the development of sensitivity to liver extract has become increasingly common. Schwartz and Legere observed such sensitivity reactions in 68 of 396 patients (17 per cent) receiving liver extract injections for pernicious anemia. The symptoms of sensitivity to liver extract are those of any foreign protein reaction. Various technics can be used to circumvent reactions and still maintain patients on adequate doses of liver extract. These methods are (*a*) changing the "brand" or type of liver extract, (*b*) reducing the dose of liver extract, (*c*) desensitization with liver extract and (*d*) utilizing a histamine-protein complex as an antigen to produce histamine antibodies. The latter method was successful in 10 of 11 cases in which other methods had been without effect.

Rupture of Spleen in Infectious Mononucleosis.—Smith and Custer point out that rupture of the spleen has received little attention as a possible complication of infectious mononucleosis, as is evidenced by the fact that only 3 well established cases have been reported in the literature. That infectious mononucleosis is a not uncommon cause of splenic rupture is indicated by the relative incidence of the condition in the files of the Army Institute of Pathology. Of 44 cases coded as "spleen, spontaneous rupture," infectious mononucleosis stood second as a cause in 7, exceeded only by recurrent malaria in 22. The 7 cases described are represented by specimens and records at the Army Institute of Pathology, 6 having occurred in military personnel during the second world war and the seventh having been contributed by a civilian hospital. It proved possible to make an objective histologic diagnosis of infectious mononucleosis from well prepared sections of these spleens. The diagnosis was based on (*a*) a blurred architectural pattern due chiefly to large numbers of atypical lymphocytes diffused throughout the pulp and clumped in the blood sinuses, (*b*) small, poorly defined follicles, usually without germinal centers, in less than usual numbers per unit area, (*c*) cellular "infiltrates" composed largely of normal and atypical lymphocytes, in the capsule and trabeculae, in the adventitia of small intratrabecular arteries and in the subintimal zone of collecting venous sinuses and intratrabecular veins and (*d*) swelling of the lining or attached cells of the blood sinuses. The spleen in infectious mononucleosis was three to four times normal size and ruptured during the third or fourth week of the disease. It is recommended that extreme caution be employed during attempted palpation of the spleen in a suspected case of infectious mononucleosis. When the diagnosis is obvious, splenic palpation may well be omitted.

Bulletin New York Academy of Medicine, New York

22:345-394 (July) 1946

Chemotherapy in Malaria. J. A. Shannon.—p. 345.
Effects of Rice Diet Treatment of Kidney Disease and Hypertension. W. Kempner.—p. 358.
Pathology, Old and New. H. T. Karsner.—p. 371.

22:397-448 (Aug.) 1946

Medical Management of Peripheral Vascular Disorders. S. Silbert.—p. 397.
Disorders of Spleen, with Special Reference to Those Amenable to Surgical Therapy. R. H. E. Elliott.—p. 415.
Hemorrhage in Viable Period of Pregnancy. R. L. Barrett.—p. 428.

Delaware State Medical Journal, Wilmington

7:141-166 (July) 1946

*Torula Histolytica (Cryptococcus Hominis) Infection: Report of Case Refractory to Sulfonamides. L. B. Flinn, J. W. Hooker and E. G. Scott.—p. 141.
Tularemia: Case Treated with Streptomycin. A. J. Heather and E. G. Scott.—p. 148.
Myxedema with Cholesterosis and Massive Pericardial Effusion. J. W. Howard.—p. 150.
Lymphoma of Small Intestine in Childhood. C. L. Munson and H. E. Marx.—p. 153.
Renal Hemangiomata. B. S. Vallett.—p. 155.
Rh Survey. J. W. Howard.—p. 157.
Leiomyosarcoma of Stomach: Case Report. W. W. Lattomus and J. W. Alden Jr.—p. 159.
Rehabilitation in the Obese by Lipectomy. L. J. Jones and G. J. Boines.—p. 161.

Torula Histolytica Infection Refractory to Sulfonamides.—A Negro aged 49, admitted to the Delaware Hospital, complained of drowsiness and headache of six months' duration. His nutrition was poor and there was general weakness. In 1926 he had been operated on elsewhere for gangrenous appendicitis. A fistula remained, necessitating two subsequent operations. After more than two months of hospitalization Torula histolytica was isolated from the spinal fluid and later material aspirated from the mass in the right chest showed torulae both on smear and on culture. The patient died after several months of treatment with sulfonamides, potassium iodide and antimony and potassium tartrate. At necropsy torulae were found to be widespread, involving the brain, meninges, lung, stomach, cecum and ascending colon. As Flinn and his associates point out, the disease may have been too far advanced when treatment was started to permit a satisfactory response; however, the growth of the organism was also entirely uninfluenced by six different sulfonamides in in vitro tests. It seems that the sulfonamides are not effective against most strains of Torula histolytica.

Diseases of Chest, Chicago

12:277-370 (July-Aug.) 1946

Foreseeing and Forestalling Tuberculosis. W. E. Ogden and others. —p. 280.
Thoracoscopy as Method of Exploration in Penetrating Injuries of Thorax: Preliminary Report. J. Martins Castello Branco.—p. 330.
Tuberculosis Among Sanatorium Personnel. D. G. Alarcon.—p. 336.
Epidemiology of Tuberculosis in Brazil and Vaccination with BCG. M. M. Bueno.—p. 343.
Experiences with BCG in Latin America. F. D. Gomez.—p. 348.

Endocrinology, Springfield, Ill.

38:337-412 (June) 1946

*Effect of Thiouracil Hypothyroidism on Reproduction in Rat. G. E. S. Jones, E. Delfs and E. C. Foote.—p. 337.
Activation of Anterior Hypophysis by Electrical Stimulation in Rabbit. J. E. Markee, C. H. Sawyer and W. H. Hollinshead.—p. 345.
Adenosine Triphosphatase Activity of Lutein and Ovarian Tissues and Weight of Corpora Lutea During Reproductive Cycle of Rat. C. Biddulph, R. K. Meyer and W. H. McShan.—p. 358.
Local Inhibition of Hair Growth in Dogs by Percutaneous Application of Estrone. W. L. Williams, W. U. Gardner and J. DeVita.—p. 368.
Chemical Changes in Rat Adrenals After Injection of β Chloroethyl Vesicants. S. Ludwig and A. Chanutin.—p. 376.
Chemical Cytology of Rat's Adrenal Cortex in Pantothenic Acid Deficiency. Helen W. Deane and J. M. McKibbin.—p. 385.

Thiouracil and Reproduction.—Jones and his associates found that hypothyroidism induced by thiouracil has no effect on the reproductive system of the adult male rat as judged by the ability to sire litters. Prolonged administration of thiouracil associated with hypothyroidism in the adult female rat does not cause sterility but does interfere with continuation of gestation, causing resorption of embryos in 100 per cent of the cases. If the drug is given over a period of less than one hundred days some rats do deliver litters which are normal in growth and development and reproduce normally.

Journal of Bacteriology, Baltimore

51:649-806 (June) 1946. **Partial Index**

*Litmocidin, New Antibiotic Substance Produced by Proactinomyces Cyaneus. G. F. Gause.—p. 649.
*Isolation, Purification and Properties of Litmocidin. M. G. Brazhnikova. —p. 655.
Mechanism of Bacterial and Fungus Growth Inhibition by 2-Methyl-1,4-Naphthoquinone. Charlotte A. Colwell and Mary McCall.—p. 659.
Inhibitory Action of Saliva on Diphtheria Bacillus: Antibiotic Effect of Salivary Streptococci. R. Thompson and M. Shibuya.—p. 671.
Improved Slide Culture Technic for Study and Identification of Pathogenic Fungi. E. A. Johnson.—p. 689.
Microbiologic Aspects of Penicillin: IX. Cottonseed Meal as Substitute for Corn Steep Liquor in Penicillin Production. J. W. Foster, H. B. Woodruff, D. Perlman, L. E. McDaniel, B. L. Wilker and D. Hendlin.—p. 695.
Method for Determination of Culture Cycle and Growth Rate of Virulent Human Type Tubercle Bacilli. G. P. Youmans.—p. 703.
Streptococcus S. B. E.: Streptococcus Associated with Subacute Bacterial Endocarditis. J. C. White and C. F. Niven Jr.—p. 717.
Production of Conidia in Submerged Cultures of Penicillium Notatum. W. J. Gilbert and R. J. Hickey.—p. 731.
Distribution of Enteric Streptococci. M. Ostrolenk and A. C. Hunter. —p. 735.
New Tellurite Plating Medium and Some Comments on Laboratory "Diagnosis" of Diphtheria. J. H. Mueller and Pauline A. Miller. —p. 743.
Medium for Nagler Plate Reactions for Identification of Certain Clostridia. L. S. McClung, Phyllis Heidenreich and Ruth Toabe. —p. 751.
Metabolism and Chemical Nature of Streptomyces Griseus. S. A. Waksman, A. Schatz and H. Christine Reilly.—p. 753.
Production of Penicillin X in Submerged Culture. K. B. Raper and Dorothy I. Fennell.—p. 761.
Influence of Changes in Concentration of Sodium Hydroxide on Its Bactericidal Activity. F. W. Tilley.—p. 779.
Improved Method for Differentiating Acid Forming from Non-Acid Forming Bacteria. W. E. Wade, K. L. Smiley and C. S. Boruff. —p. 787.

Litmocidin, a New Antibiotic.—Gause isolated a new variety of Proactinomyces cyaneus from a sample of south Russian soil and named it Proactinomyces cyaneus-antibioticus. It produces an antibiotic substance of a new type, representing a derivative of anthocyanidine. The new antibiotic represents a litmus pigment with antibacterial action and has the designation of litmocidin. It inhibits strongly the growth of staphylococci, streptococci, tubercle bacilli and Vibrio comma, whereas its action on dysentery bacilli is moderate and there is practically no action on typhoid and colon bacilli. The bacteriostatic action is not inhibited by blood serum. The unit of activity of litmocidin is that quantity of the substance which is just sufficient to inhibit completely the growth of Staphylococcus aureus in 1 cc. of broth. One cc. of a two day old agar culture of P. cyaneus-antibioticus contains 2,000 units of litmocidin. Litmocidin is devoid of chemotherapeutic action on septicemia in mice caused by a strain of staphylococcus susceptible to litmocidin in vitro.

Isolation, Purification and Properties of Litmocidin.—Brazhnikova isolated litmocidin from watery extracts of an agar culture by ether at an acid reaction. Dry acid litmocidin was kept in powdered form and remained stable. It was further purified by dissolving it in ethanol; the solution is then mixed with ether, and water is added. The impurities are left in the watery phase, and litmocidin passes into the ether. The ether is evaporated, the dry residue is dissolved in ethanol and pure litmocidin is sedimented by water. Litmocidin possesses a constant melting point (144 to 146 C.). Litmocidin is a pigment which has much in common with the anthocyanin pigments of plants, but it does not contain any carbohydrate in its molecule. Litmocidin can be obtained in two forms: acid (red) and alkaline (blue) possessing different solubilities in water. Both forms inhibit the growth of Staphylococcus aureus in a dilution of 1:4,000,000. Litmocidin changes from red to blue, with a rise in p_H.

Journal of Bone and Joint Surgery, Boston

28:415-658 (July) 1946. **Partial Index**

Technic of the Syme Amputation. R. H. Alldredge and T. C. Thompson.—p. 415.
Conservation of Short Amputation Stumps by Tendon Section. H. C. Blair and H. D. Morris.—p. 427.
Overseas Treatment of Compound Fractures of Long Bones. G. O. Eaton.—p. 434.
Muscle Transplantation for Paralysis of Radial Nerve. H. Altman and R. H. Trott.—p. 440.
Bursitis in Region of Fibular Collateral Ligament. I. E. Hendryson. —p. 446.
Disease and Defects of Musculoskeletal System in Air Crew Trainees. E. Liston.—p. 466.
Acute Instability of Ligaments of Knee as Result of Injuries to Parachutists. R. M. Richman and K. O. Barnes.—p. 473.
Disability Evaluation for Hand. D. B. Slocum and D. R. Pratt.—p. 491.
Experiences with the Brittain Ischiofemoral Arthrodesis. J. A. Freiberg. —p. 501.
Sympathetic Block of Stellate Ganglion: Its Application in Orthopedic Conditions. G. A. Caldwell, T. F. Broderick Jr. and R. M. Rose. —p. 513.
Use of Iliac Bone in Bone Grafting and Arthrodesis. C. A. Luckey and C. O. Adams.—p. 521.
*Fusion of Vertebrae Following Resection of Intervertebral Disk. S. L. Haas.—p. 544.
Knee Fusion by Use of Three-Flanged Nail. D. M. Bosworth.—p. 550.
Treatment of Congenital Dislocation of Hip. E. L. Compere and W. J. Schnute.—p. 555.
Compound Comminuted Fractures Involving Elbow Joint: Treatment by Resection of Fragments. J. T. Nicholson.—p. 565.
*Treatment of Chronic Osteomyelitis by Use of Muscle Transplant or Iliac Graft. E. K. Prigge.—p. 576.
Metatarsal Fractures. E. J. Morrissey.—p. 594.
Arthroplasty of Temporomandibular Joint in Children with Interposition of Tantalum Foil: Preliminary Report. G. W. N. Eggers.—p. 603.

Fusion of Vertebrae Following Resection of Intervertebral Disk.—Haas performed experiments on dogs of various ages in which the intervertebral disks were removed at operation by the transabdominal approach. Complete bony bridging occurred between the bodies of the vertebrae of dogs after the intervertebral disk had been removed. The bone proliferation was more active in young animals. If a disk operation is performed on a growing individual, one should take into consideration the possibility of retardation of growth, with resulting deformity of the spine. In the removal of the disk from the abdominal side there was evidence of injury to the dura and cord. Likewise, in the dorsal approach there is danger of injuring the large vessel on the abdominal side. Care should be taken to avoid such injuries. Although none of the operations were performed by the dorsal spinal approach, it can be predicated that if the disk is thoroughly removed so as to expose the bone on either side, osseous union will take place between the two bodies. Complete bony union between the bodies produced sufficient fixation to prevent movement between

the articular facets and between the spinous processes. When union was incomplete there was considerable fixation of bodies, but movement took place between the articular facets.

Muscle Transplant or Iliac Graft in Chronic Osteomyelitis.—Prigge treated 64 foci of chronic osteomyelitis in 61 patients with radical excision of the avascular and infected tissue, filling the bone defect by viable muscle and performing a loose primary or secondary suture. Care was taken that the innervation and blood supply of the donor muscle and the blood supply of the pedicle were not jeopardized. All patients received penicillin intramuscularly for three weeks. Good results were obtained in 43 of 44 lesions treated in this manner. The cases in which the defect could not be obliterated by a muscle transplant have been treated by radical excision and a graft of iliac bone. In the calcaneus, the anterior surface of the tibia and the radial styloid, obliterating the dead space with grafts of cancellous iliac bone has shown merit.

Puerto Rico J. Pub. Health & Trop. Med., San Juan

21:327-414 (June) 1946

Black Fly, Simulium (Eusimulium) Smarti, N. Sp. (Diptera: Simuliidae), of Onchocercosic Zone of State of Chiapas, Mexico. L. Vargas. —p. 327.
Treatment of Schistosomiasis Mansoni with Antimony Lithium Thiomalate (Anthiomaline). F. Hernández Morales, R. M. Suárez, Caroline K. Pratt and J. O. González.—p. 336.
Complement Fixation and Weil-Felix Reactions in Study of Typhus Among Wild Rats. A. Pomales Lebron, G. Arbona, P. Morales Otero and E. Koppisch.—p. 350.
Intestinal Cestode Infections in Natives of Panama. H. A. Tucker. —p. 364.
Incidence of Intestinal Protozoa Among Patients of University Hospital at San Juan, Puerto Rico. Josefina A. Matienzo.—p. 369.
Increase of Bacteriophage in Vivo During Experimental Infections with Shigella Paradysenteriae Flexner in Mice. J. E. Perez.—p. 376.
Isospora Hominis Fantham, 1917, in Puerto Rico: Report of First Case Observed. J. F. Maldonado.—p. 397.

Surgery, Gynecology and Obstetrics, Chicago

83:145-208 (Aug.) 1946

Fate of Preserved Heterogenous Grafts of Fascia When Transplanted into Living Human Tissues. J. Chandy.—p. 145.
*Peritonitis of Appendical Origin Treated with Massive Doses of Penicillin: Report of 50 Cases. G. Crile Jr.—p. 150.
Torsion of Spermatic Cord. L. W. Riba and C. J. Schmidlapp.—p. 163.
Experimental Study on Liver Function Tests. C. A. Tanturi, J. F. Canepa, R. Bay and R. F. Banfi.—p. 171.
Surgical Treatment of Pancreatic Cysts. R. Adams and R. A. Nishijima. —p. 181.
*Severe Burns: Clinical Findings with Simplified Plan of Early Treatment. R. Elman, C. R. Merry, C. E. Beguesse and R. Tisdale. —p. 187.
Technic for Repair of Postoperative Abdominal Hernias. N. J. Maclean. —p. 200.
One Stage Tubed Abdominal Flaps: Single Pedicle Tubes. D. T. Shaw and R. L. Payne Jr.—p. 205.
Effects of Certain Drugs on Sphincter of Oddi. N. W. Thiessen. —p. 210.
Liposarcoma of Female Mammary Gland. A. P. Stout and M. Bernanke. —p. 216.
Deformations of Skull in Head Injury Studied by "Stresscoat" Technic Quantitative Determinations. E. S. Gurdjian and H. R. Lissner. —p. 219.
Spontaneous Rupture of Esophagus. E. L. Eliason and R. F. Welty. —p. 234.
Diagnosis and Therapeusis of Simple Cysts of Breast. H. J. Vanden Berg.—p. 239.
Surgical Aspects of Trench Foot. R. R. Bates.—p. 243.
*Thiouracil Will Not Replace Thyroidectomy. A. S. Jackson.—p. 249.
Feeding Tube Stenosis of Larynx. P. H. Holinger and W. J. Loeb. —p. 253.

Penicillin in Peritonitis of Appendical Origin.—Crile reviews 50 cases of proved peritonitis of appendical origin which were treated with penicillin. The dosage of penicillin was 100,000 units given every two hours intramuscularly for two to six days followed by smaller amounts for three to four days. There was but 1 death in this series, and this resulted from thrombosis of the mesenteric vessels. In spreading peritonitis the infection was controlled by penicillin. In localized peritonitis with or without formation of a mass the infection was controlled, and the mass eventually was absorbed. In no case was it necessary to drain an intra-abdominal abscess, and there was no spontaneous drainage into the bowel. It is suggested that action of large doses of penicillin in mixed infections is against the virulent gram positive cocci. Escherichia coli is known to inactivate penicillin; hence large doses of penicillin must be given for long periods if effective action against the cocci is to be obtained. Escherichia coli in pure culture usually is of low virulence and, if the virulent gram positive cocci are controlled by chemotherapy, the peritoneum is able to localize and eventually absorb infections due to the remaining Escherichia coli organisms.

Simplified Early Treatment of Burns.—Elman and his associates describe a plan of treatment reduced to its simplest details. Fifty-five cases were selected for analysis. No case was included in which arrival at the hospital was later than a few hours of injury, and persons with burns involving less than 10 per cent of the body surface were excluded. The burns were treated by the application of a simple gauze dressing, without preliminary débridement, but with aseptic care, and the dressing was left in place as long as possible, often two weeks. Plasma transfusions were used only when indicated by circulatory impairment. Morphine was used only for the relief of pain in 9 of the 55 cases. A high fluid and food intake was an essential feature of therapy. The 43 healed cases showed relative absence of infection and rapid healing, and they required a relatively small amount of skin grafting. Analysis of the systemic manifestations showed that the extent or depth of the skin involved is not an accurate indication of its seriousness. Analysis of the fatal cases suggests that they may be detected early by the presence of vomiting, shock and toxemia. Constant observation is necessary during the first twenty-four to forty-eight hours of any patient with a flame burn who exhibits vomiting, severe sensorial depression and circulatory impairment. Special methods of treatment may be indicated. For example, the injection of sodium lactate or bicarbonate may prove to be of decisive importance. The preference for whole blood over plasma even though hemoconcentration is present may also prove decisive.

Thiouracil and Thyroidectomy.—Jackson believes that thiouracil will not replace thyroidectomy, because if the health of the average patient with toxic diffuse goiter may be restored by surgery within a few weeks there seems little justification for subjecting him to months or years of treatment with a dangerous drug. The risk of using thiouracil seems justified in (1) advanced cases of multiple toxic adenoma in which there is no response to iodine; (2) cases of toxic adenoma complicated by such conditions as myocarditis, fibrillation, hypertension, diabetes and decompensation; (3) cases of severe toxic diffuse goiter in the very young, the aged, the debilitated and the decompensated; (4) cases of toxic diffuse goiter in which, because of pregnancy, previous nerve injury, infections or other diseases, it may be desirable to delay surgery and yet not continue on iodine; (5) cases of iodine fast toxic diffuse goiter, and (6) cases of recurrent or persistent hyperthyroidism. The author's experience with thiouracil has proved encouraging in all these types of cases. Probably the gravest risk in the surgical treatment of hyperthyroidism has been brought under control, namely the advanced cases of toxic adenoma in which a two stage thyroidectomy has usually been required. After several weeks of preparation with thiouracil the author has successfully performed a one stage thyroidectomy in 12 of these cases. Likewise, in several cases in which the systolic blood pressure was in excess of 225 and in which the threshold of cardiac reserve was small, thiouracil has reduced the risk considerably. The author concludes that thiouracil will supplement but not supplant surgery in the treatment of toxic goiter.

Wisconsin Medical Journal, Madison

45:653-736 (July) 1946

Thiouracil. A. S. Jackson.—p. 677.
Roentgen Therapy of Pituitary Adenomas. J. A. Mufson and S. S. Blankstein.—p. 680.

45:737-820 (Aug.) 1946

Possibility for Postgraduate Education in Small Hospital. T. J. Snodgrass.—p. 757.
Modern Therapy of Trigeminal Neuralgia. H. P. Maxwell.—p. 761.
Histoplasmosis: Report of Case with Autopsy. L. L. Swan and J. V. Finnegan.—p. 763.

FOREIGN

An asterisk (*) before a title indicates that the article is abstracted below. Single case reports and trials of new drugs are usually omitted.

British Journal of Ophthalmology, London

30:437-500 (Aug.) 1946

Perioptic Atrophic Ring and Its Relationships. R. Pickard.—p. 437.
Arabian Ophthalmology. W. B. I. Pollock.—p. 445.
Occupational Therapy in Eye Wards. W. O. G. Taylor.—p. 456.
Use of "Contact Corneal Rings" in X-Ray Localization of Intraocular Foreign Bodies. J. L. Reis.—p. 462.
Case of Chondroma Bulbi. A. Ajo.—p. 465.
Diagnostic and Clinical Value of Some Forms of Retinal Angiospasm. N. Pines.—p. 470.
Report on Case of Hydrophthalmia (Buphthalmos). E. Epstein.—p. 476.
Electrolysis Apparatus Devised for Retinal Detachments. C. Gordon-Napier.—p. 478.

British Journal of Radiology, London

19:257-300 (July) 1946

Blurring in Radiography. A. Nemet, W. F. Cox and G. B. Walker. —p. 257.
'Untreated Carcinoma of Breast: Comparison with Results of Treatment of Advanced Breast Carcinoma. Phyllis Wade.—p. 272.
System of Filing and Cross Indexing X-Ray Reports. H. W. Gillespie. —p. 281.
Note on Maintenance of X-Ray Dosage Substandard. H. C. Webster, D. F. Robertson and D. J. Stevens.—p. 284.
Automatic Control for Diagnostic X-Ray Exposures. T. H. Hills. —p. 288.
Case of "Calcinosis Circumscripta." N. Klein.—p. 289.
Gastroduodenal Invagination. H. Jungmann.—p. 292.
Note on Amount of Radiation Incident in Depths of Pelvis During Radiologic Pelvimetry. J. H. Martin and E. R. Williams.—p. 297.

Survival in Untreated Carcinoma of Breast.—Wade analyzes 27 untreated cases of carcinoma of the breast. She also studied survival rates of 777 plus about 50 cases collected from various sources, and 757 of these are classified in age groups. A comparison is made with survival rates for 177 treated advanced cases and an evaluation of the results of palliative treatment in a further 201 cases. Spontaneous cure does not occur in carcinoma of the breast, all untreated patients dying of the disease unless death supervenes from intercurrent disease. But the normal expectation of life diminishes as age increases, so that if the disease is left untreated the reduction in expectation of life in elderly patients is far less than that for the younger groups. This emphasizes the importance of consideration of age with the survival period when results of treatment are being assessed. This may be illustrated by supposing that a group of treated patients survived for a mean duration of five years. Taking the mean duration of 38.5 months for the sample given of 777 untreated patients, it can thus be claimed that the group treated had an average gain of approximately 21.5 months of life. But if on investigating the ages of the treated patients it is found that (to take an extreme example) they were all under the age of 35, then the survival period of sixty months should be compared with the normal expectation of 38.44 years, which entails a loss of 33.44 years expectation of life. On the other hand, if the treated patients were all over the age of 75 their normal expectation is 5.46 years, so that if they have survived five years they have lost only 0.46 year. The difference in years lost (33.44 against 0.46) has a much greater significance than the level of 21.5 months of life gained as the result of treatment. The actual duration of the untreated disease is not proved to have a definite relation to the age of the patient, although the cases recorded here show a slight increase in duration in the middle age groups. There is also a wider variation in duration for the younger age groups, and the older patients deviate less from the mean duration. Treatment of selected advanced cases increases the duration of life and raises the survival rate at all periods. Treatment thus enables patients to regain a percentage of their normal expectation of life which they would not have had were the disease to remain untreated. But the calculation of a number of years of prolonged existence does not paint a true picture of the total advantage accruing to the patient by treatment, as the untreated patient is suffering from cancer during the whole period of survival. Treatment, therefore, can improve prognosis both for the duration of life and for the condition during life.

British Medical Journal, London

2:1-38 (July 6) 1946

Evolution of Clinical Medicine as Illustrated by History of Epilepsy. G. Holmes.—p. 1.
Typhus: Experiences in Central Mediterranean Force. H. D. Chalke. —p. 5.
*Penicillin in Treatment of Severe Diphtheria. R. J. Dodds.—p. 8.
Short Survey of Trilene in General Practice. A. Barratt and S. H. B. Platts.—p. 10.
Undulant Fever Complicated by Acute Transient Attacks of Aphasia and, During Convalescence, by Deafness, Tinnitus and Paresthesia. G. J. Dixon and R. Roaf.—p. 12.

2:39-76 (July 13) 1946

Progress of Aviation Medicine in Royal Air Force and Its Application to Problems of Civil Aviation. H. E. Whittingham.—p. 39.
Inadequate Feeding in Hospitals: Study of Contributory Factors. J. A. F. Stevenson, Joan Whittaker and R. Kark.—p. 45.
The Itchy Patient. H. MacCormac, P. H. Sandifer and A. M. Jelliffe. —p. 48.
Tropical Ulcers and Penicillin. J. G. Webb.—p. 49.
Angioblastoma of Breast Complicating Pregnancy. J. B. Enticknap. —p. 51.

Penicillin in Severe Diphtheria.—Dodds compared the results obtained in patients treated with antitoxin and those treated with a combination of antitoxin and penicillin. Thirteen patients with severe diphtheria were given systemic penicillin in addition to normal doses of antitoxin. The results obtained are compared with a similar number of comparable cases treated with antitoxin alone. The results show that, while penicillin may not have the dramatic curative effect in diphtheria that it has in many other diseases and can in no way supplant antitoxin, it appears to have been in some degree beneficial in most cases treated. In the author's opinion it should be given, together with antitoxin, in all cases of severe diphtheria.

Lancet, London

2:37-72 (July 13) 1946

Tuberculosis Service and Future. N. Tattersall.—p. 37.
Variations in Reproductive Pattern According to Social Class. D. Baird. —p. 41.
Demodex Folliculorum in Human Nipple. H. S. D. Garven.—p. 44.
Gramicidin S: Review of Recent Work. G. F. Gause.—p. 46.
Ovarian Cystectomy of Twisted Cysts. S. Way.—p. 47.
Hernia Through Foramen of Winslow: Case. L. Gillis.—p. 48.

2:73-108 (July 20) 1946

Effects of Slow Starvation. G. B. Leyton.—p. 73.
Tubocurarine Chloride as Adjunct to Anesthesia: Report of 180 Cases. F. Prescott, G. Organe and S. Rowbotham.—p. 80.
"Masked" Syphilis: Dangers of Penicillin Therapy. E. Cronin.—p. 84.
Preservation of the Vein in Operations for Arteriovenous Fistula. J. Haile.—p. 85.
Oil Sterilization of Syringes. K. B. Rogers.—p. 87.
Tuberculous Glands and Sinuses Treated with Calciferol. H. J. Wallace. —p. 88.

Medical Journal of Australia, Sydney

2:1-36 (July 6) 1946

Responsibility of Doctor in Regard to Rehabilitation in Private and Hospital Practice. D. Galbraith.—p. 1.
Rare Isohemagglutinogen. J. J. Graydon.—p. 9.
National Health. W. G. Heaslip.—p. 10.
*Curare in Anesthesia: Preliminary Note. H. J. Daly and S. V. Marshall.—p. 14.
Congenital Cardiac Defects Associated with Maternal Rubella. L. P. Winterbotham.—p. 16.
Agglutination Titers with Bacillus Proteus (OXK) in Human Serums. J. D. Hicks.—p. 19.

Curare in Anesthesia.—On the basis of a number of case histories Daly and Marshall demonstrate that curare is a useful adjunct to general anesthesia, especially for seriously ill patients or in "poor risk" cases. It greatly reduces the amount of anesthetic agent required, thus minimizing not only toxic effects but also the deleterious consequences of prolonged narcosis. It is no substitute for adequate anesthesia, but it obviates the necessity for profound depth. A nice balance between anesthetic dosage and that of curare must be established in order to get the best results. Training, experience, adequate facilities and good judgment are essential requisites for its safe and satisfactory use.

Revista Médica de Rosario

36:213-274 (May) 1946. **Partial Index**

Diffuse Spasm of Esophagus. J. L. de Grucci.—p. 213.
Etiology of Diabetes Mellitus. O. Vila.—p. 223.
*Fibrosarcoma of Darier on Scar of Bite Wound. C. Sylvestre Begnis and J. P. Picena.—p. 233.

Fibrosarcoma of Darier on Bite Scar.—Sylvestre Begnis and Picena present the history of a man aged 33 who nine years previously, during a fight, had been bitten by his adversary in the mammary region above the left nipple. A tumor developed four years later in the scar resulting from this bite. This tumor suppurated and was extirpated. The patient was told that it was a benign cyst and no tissue examination was made. Four years later a new tumor developed and was widely excised. Microscopic examination of this tumor disclosed that it was a dermatofibroma or a fibrosarcoma of Darier.

Sezonismo, Lisbon

Pp. 7-213, 1942-1943

*Malaria and Kala-Azar: Case. J. J. Pereira Lima.—p. 99.

Malaria and Kala-Azar.—A number of specialists in tropical diseases believe that there is an antagonism between malaria and kala-azar. The association of the two diseases is common. The diagnosis is made by the finding of Plasmodia falciparum in the peripheral blood and of Leishmania in the material taken from the spleen by puncture. Splenomegaly may be due to kala-azar. The latter is treated with injections of neostibosan at intervals of two days: one injection of 0.10 Gm., two injections each of 0.15 Gm. and 0.20 Gm. respectively and five injections of 0.25 Gm. each. The total dose of neostibosan administered is 2.55 Gm. The treatment is reliable, efficacious, well tolerated and without complications. Pereira Lima reports the successful treatment of a child 7 years of age.

Vrachebnoe Delo, Kharkov

No. 5, 194-288, 1946. **Partial Index**

Classification of Malarial Disorders and Individual Plan in Malarial Therapy. I. P. Braude.—p. 194.
Diagnosis and Adequacy of Malarial Therapy. B. Ya. Padalka.—p. 199.
Diagnosis and Adequacy of Malarial Therapy. L. K. Korovitskiy and M. G. Rosenbaum.—p. 206.
*Combined Methylene Blue and Glucose Intravenous Therapy of Malaria. I. K. Grabenko.—p. 214.
*Question of Extraerythrocytic Forms of Plasmodium Relictum. T. M. Kontorovskaya and V. D. Moldavskaya.—p. 235.

Combined Methylene Blue and Glucose Intravenous Therapy of Malaria.—Grabenko treated 40 patients who had a refractory type of chronic malaria. These patients had received before admission to the hospital many courses of quinine therapy according to various schemes but without a definite effect. Malarial attacks recurred in these patients after one or two months following a course of treatment and sometimes as late as one to two years. There were in this group 5 instances of tropical malaria and 35 of the quartan. Plasmodia were found in the blood of 35 patients. Treatment consisted in five or six intravenous infusions of 15 to 20 cc. of 1 per cent solution of methylene blue in 25 per cent glucose. In the majority of the patients thus treated fever was terminated after the first or second infusion. The attacks were aborted and did not recur during residence in the hospital. In all patients there was noted toward the end of the therapy a pronounced diminution in the size of the spleen and the liver. In 26 patients in whose blood plasmodia were demonstrated the parasites disappeared in the course of the treatment and after treatment from the peripheral blood. Some of the patients who tolerated poorly even insignificant rises of temperature during attacks have not complained at all after infusion of methylene blue and glucose. This was probably due to the anodyne effect of the methylene blue and glucose. Grabenko feels that when quinacrine, plasmochin and other substitutes for quinine are ineffective and when patients display an idiosyncrasy toward quinine, the methylene blue and glucose therapy has a definite place.

Extraerythrocytic Forms of Plasmodium Relictum.—Kontorovskaya and Moldavskaya inoculated 30 canaries with emulsion of salivary glands of Culex pipiens infected with sporozoites of Plasmodium relictum, while 18 canaries were subjected to the bites of malaria infected mosquitoes. Thirty-four control canaries were divided into four groups: (1) 19 normal canaries, (2) 5 canaries inoculated with infected blood, (3) 5 canaries inoculated with emulsion of salivary glands of noninfected mosquitoes raised in the laboratory and (4) 5 canaries subjected to bites of noninfected mosquitoes. Both the experimental and the control birds were killed from five minutes, thirty minutes, twenty-four hours and daily up to the tenth day after the infection. Blood smears and sections from various organs such as the brain, bone marrow, liver, spleen, lungs, heart, kidney and the place of inoculation were stained with the Giemsa stain. In the great majority of the birds infected with the emulsion of salivary glands containing sporozoites of P. relictum or through the bite of mosquitoes there were found in the course of the entire incubation period nonpigmented forms of P. relictum either lying free in the tissues or contained within the large cells of the monocytic type in the various stages of development. The authors conclude that the sporozoites of P. relictum introduced into the body of a vertebrate host pass through the first phase of their development in the cells of the reticuloendothelial system and later as merozoites invade the erythrocytes, where they begin the well known asexual cycle of development. The nonpigmented types apparently represent a definite phase of development of P. relictum during the transition of the sporozoites to trophozoites.

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Appearance and Disappearance of Endometriosis. K. de Snoo.—p. 480.
*Reiter's Disease. M. S. Koster and M. T. Jansen.—p. 483.
*Diphtheric Gingivitis and Stomatitis. D. Hoogendoorn.—p. 485.
Bronchography and Bronchoscopy in Diagnosis and Therapy of Pulmonary Tuberculosis. C. de Langen.—p. 488.
Arrest of Hemorrhage from Femoral Artery by Certain Maneuvers. W. R. H. Kranenburg.—p. 490.
Nicotinic Acid in Blood. J. A. Niemeijer.—p. 493.
Staining of Alpha Cells of Islands of Langerhans by Means of Lendrum's Formol Carbolfuchsin Method. H. Hartz.—p. 496.
Modern Treatment of Burns. H. E. Driessen.—p. 497.
Salicylic Acid Reaction of Mester. A. L. de Groot.—p. 500.

Reiter's Disease.—Koster and Jansen point out that Reiter's disease, which is characterized by the triad urethritis, polyarthritis and conjunctivitis is frequently preceded by an attack of enteritis or dysentery. These three organic disorders may appear simultaneously, or one may precede the others by several weeks. The urethritis may be complicated with cystitis and balanitis, the conjunctivitis with keratitis and iritis; the arthritis usually involves several joints, the knee and foot most frequently. The disease generally lasts for months and the patients are usually young men (soldiers), but women are not exempt. The author observed 3 cases of Reiter's disease in a family in which 3 of 4 siblings developed it. The first patient was a boy aged 15, the second his little brother of 3 and the third a brother of 11 years. Several weeks later the author observed Reiter's triad in a man aged 32. These patients recovered in the course of several weeks.

Diphtheric Gingivitis and Stomatitis.—Hoogendoorn treated a number of persons for gingivitis. In 1 of these a smear was positive for diphtheria bacilli. Cure required a month, but specific antidiphtheric treatment was not used. In other patients with gingivitis the search for diphtheria was negative. In 1 patient with a severe refractory gingivitis administration of antidiphtheritic serum resulted in rapid improvement. Examination of the oral cavity of 26 of 35 men who had been associated with this patient revealed 2 bacillus carriers and a number with enlarged tonsils or gingivitis. Patients with gingivitis who do not promptly react to the usual treatment should be examined for the presence of diphtheria bacilli. If there is an epidemic of gingivitis or if a patient with gingivitis has had contact with a diphtheria patient or carrier, bacilli should always be searched for and, when they are detected, specific therapy should be instituted.

Book Notices

Women in Industry: Their Health and Efficiency. By Anna M. Baetjer, Sc.D., Assistant Professor of Physiological Hygiene, School of Hygiene and Public Health, The Johns Hopkins University, Baltimore, Maryland. Issued Under the Auspices of the Division of Medical Sciences and the Division of Engineering and Industrial Research of the National Research Council. Prepared in the Army Industrial Hygiene Laboratory. Cloth. Price, $4. Pp. 344, with 35 illustrations. Philadelphia & London: W. B. Saunders Company, 1946.

Early in the days of our total war the organized industrial health effort of the army recognized the changing nature of the work force. Men of military age were replaced by women, older men, younger men and the handicapped. Almost overnight industrial health became a prime factor in the nation's war. Programs to determine, maintain and improve the health of war workers and women in particular assumed an A-1 priority. The volume presents information about the ability of women to perform operations which previously were considered suitable only for men. The rapid transition which eighteen million women made and the efficiency with which they produced the goods of war reflect great honor and credit on them and is in keeping with the highest traditions of American womanhood. In spite of the credit which this volume pays to women, it is not intended to justify their employment in industry. However, it does gather together facts about the relationship of employment to the health of women. The book is divided into seven sections, seventeen chapters (the last of which is a general summary), an appendix, bibliography and an index. Industrial physicians, industrial nurses, public health educators, labor and industrial management will like the thorough completeness, fine simplicity, brilliant individual design and precision of the author. Experience gained during the war as reported in this volume should assist industrial America in forming future policies of employment relative to that rapidly growing proportion of our female population which earns a living in our mechanical and manufacturing world. "There is reason to believe that sixteen million women will be gainfully employed by 1950."

The Modern Small Hospital and Community Health Center: A Selection of Plans for Small Hospitals and Community Health Centers Submitted in the 1944 Competition Conducted by the Modern Hospital Together with Discussions of the Problems Involved in Financing, Planning, Building and Operation by Leading Hospital Authorities. Edited by Alden B. Mills and Everett W. Jones. Cloth. Price, $7.50. Pp. 138, with illustrations. Chicago: Modern Hospital Publishing Company, Inc., 1946.

This book contains a selection of forty-one plans for small hospitals and community health centers submitted in the 1944 competition conducted by the *Modern Hospital*. In connection with each plan are comments by the architects and designers as well as by the committee on awards. Twelve prize winning plans are included, representing six hospitals and six community health centers. Additional articles by leading hospital authorities give valuable information on administrative and professional organization, hospital planning, construction, operation and finance. Check lists are likewise included showing the type of equipment required in various hospital departments. The book contains excellent illustrations of floor plans and exterior views and can be recommended highly as a source of information for all who are interested in hospital construction and organization.

Penicillin Therapy and Control in 21 Army Group. Published under the direction of the Director of Medical Services, 21 Army Group, with introduction by the Consulting Surgeon. Fabrikoid. Pp. 365, with illustrations. London: [His Majesty's Stationery Office], 1945.

A comprehensive review of the effects of penicillin therapy in the treatment of war wounds as seen in the 21st Army Group of the British army is given in this collection of reports from various surgeons. Emphasis on the important features of early evacuation, skilful handling of wounded men and discriminatory débridement are important features in the healing of war wounds. A comparison of the various prophylactic agents used indicates that penicillin is more effective in reducing subsequent infections than penicillin and sulfonamides or the use of sulfonamides either by mouth or locally. There are numerous reports illustrating the necessity of proper débridement and demonstrating that neither sulfonamides nor antibiotics are effective substitutes for the proper surgical management of war wounds. While it was not always possible to have alternate cases receive different types of treatment, comparisons were made between units that employed one type of therapy and other units that used different types of therapy. A series of 1,177 cases was studied by the 21st Army Group and represented one of the best studies of penicillin and other types of therapy. The time that elapsed between the initial wound treatment and the beginning of definitive care was an important feature in healing. Primary suture was effective only in a limited number of instances when fresh wounds were seen by competent surgeons who practiced skilful débridement and sacrificed no viable tissue. Attempts at primary suture after three or four days' delay were not as good as previous reports had suggested. Local applications of sulfonamides reduced the incidence of infection though they frequently acted as foreign bodies. Sulfonamides by mouth seemed to be more effective in reducing wound infection, just as experienced by the National Research Council. The small volume on war wounds is well written and is factually annotated by the various surgeons assigned to or attached to the 21st Army Group. It is a treatise that surgeons will find worthy of study.

La resección transuretral de la próstata. Por Alfonso y Emilio de la Peaña. Prólogo del Prof. Dr. W. Braasch. Paper. Price, 25 pesetas. Pp. 150, with 28 illustrations. Madrid: Ediciones Morata, 1944.

Transurethral resection of the prostate and vesical neck as an operation, in spite of the antagonism to which it was subjected by many urologists and surgeons in its beginning, has now been definitely incorporated in urologic therapeutics as one of the most efficacious procedures in the management of prostatism. There are two principal types of resectoscopes: the diathermic loop (Stern-Davis-McCarthy) and the punch resectoscope with modifications (Braasch-Bumpus-Thompson). Of these two resectoscopes the latter accomplishes the operation with more success and less danger. The authors have modified the original Braasch-Bumpus resectoscope so as to employ a mixed technic for resections. First they resect most of the tissue with the punch, then they remove the remaining tissue, particularly that which lies adjacent to the verumontanum, with the diathermic loop, which they pass through the Braasch-Bumpus instrument or through the McCarthy. Another modification introduced by the authors is the use of a pistol handle which allows the operator to resect tissue with one hand. Using this modification, one can introduce the index finger of the other hand into the rectum to exert counterpressure, thus facilitating the engagement of tissue.

The indications for transurethral resection, according to the authors, are viewed differently by two main groups. The first and largest group believe the procedure should be restricted to vesical neck dysfunctions, cases of small prostatic enlargement, such as where the obstruction is produced by just a median bar, and in cases of prostatic cancer, in which it is used as a palliative measure. The second and lesser group believe that all cases of prostatism are amenable to transurethral resection. They point out that this statement is influenced by the experience of the urologist. The authors perform both transurethral resection and open operation (suprapubic and perineal), so that many times they find it difficult to suit the proper surgical procedure to the individual case.

The urologists know that the size of the prostate cannot always be accurately determined by rectal examination and cystoscopy. Although they believe that most prostates are amenable to transurethral surgery, they prefer to treat obviously large prostates with open operation. For this reason, if the patient is in good general condition and urologic examination indicates that the gland is larger than 50 Gm., they prefer an open operation, their reason being that the open operation can be done in the same length of time as a resection on a big gland, the operative risk is not increased and with the one stage procedure hospitalization is not prolonged. When the prostatic enlargement appears to be less than 50 Gm., transurethral resection is done. Transurethral resection is also always done in prostatic carcinoma, since it is superior to cystostomy and the procedure does not seem to spread the neoplastic cells.

The success of transurethral operation depends on the experience of the resectionist to remove an adequate amount of tissue so that normal bladder function will return. Adequate preparation of the patient and good postoperative care are of paramount importance. The technic of transurethral prostatic resection can be acquired only after a prolonged period of observing and assisting a trained resectionist.

It is said by some that, following transurethral resection, a late result is a recurrence of the symptoms of prostatism. To relieve this, either another transurethral resection or perhaps an open operation must be done. The authors state that they see this same late result following open operations. They also feel that a second transurethral resection can be done with little inconvenience to the patient. However, most patients are of such an age that they do not live to see the recurrence of symptoms.

The mortality of transurethral resection is less than 1 per cent in the hands of experienced resectionists,

In their last 168 cases the authors have had one fatality.

The high mortality reported by some is, according to the authors, due to lack of experience, inadequate training and, therefore, errors in technic.

Principles of Dynamic Psychiatry Including an Integrative Approach to Abnormal and Clinical Psychology. By Jules H. Masserman, M.D. With a Glossary of Psychiatric Terms. Cloth. Price, $4. Pp. 322, with 4 illustrations. Philadelphia & London: W. B. Saunders Company, 1946.

Increased interest in psychiatric problems has been responsible for many valuable treatises on the subject. The basic conceptions of modern psychiatry and a review of normal and abnormal behavior are given in surprising detail in this volume. Most of the important phases of psychiatry are clearly described and well illustrated. The interspersing of factual clinical data together with explanatory and analytical comments by the author have been a valuable approach to the teaching of clinical psychiatry. The descriptions of the concepts of behavior form a sound introduction to an understanding of psychiatry. Basic processes active in motivation of human action are adequately described in considerable detail. Some of the more common dynamics of adaptability afford an insight and understanding of fundamental psychobiotic processes.

A detailed review and analysis of the biodynamics of abnormal behavior comprise the bulk of the book. General principles are given in clear and concise terms. An explanation and discussion of the principle is followed as a method of acquainting the reader with the varied aspects of the principle. At times brief clinical histories are used to elaborate or illustrate the specific point. Corollaries of general principles are occasionally stated.

The examination of the factors of biodynamic processes include all of the more important features of human action, expression and symbolism. Of special interest is the excellent critique of biodynamic theory of behavior. It forms a sound and fitting conclusion.

The book was presumably written to provide "a printable introduction to the principles of modern dynamic psychiatry." However, it is felt that the vocabulary is frequently beyond the reach of the average physician, medical student or student nurse. For example, on page 9 is the passage "Among these criticisms are that all objective measurements show a Gaussian and not a trimodal distribution of physical characteristics among the population; second, that Sheldon himself estimated the personality types of his subjects without special tests or independent appraisals and thus may have achieved artificial correlations, and third, that no other controlled and statistically valid studies (cf. Paterson) have shown significant correlations between 'constitution' on the one hand and either 'personality' or type of mental disorder on the other." It is doubtful whether the average medical student could fully comprehend the meaning of this.

An extensive bibliography is added to the book, so that more mature students have a ready source of additional information. The glossary of psychiatric terms is helpful to students beginning their study of psychiatry and forms a distinctly valuable addition to some of the newer methods of teaching psychiatry. The book as a whole gives a complete outline of the basic processes encountered in psychiatry and should form a valuable addition to the library of any practitioner interested in psychiatry.

General Biology. By William C. Beaver, Ph.D., Professor of Biology, Wittenberg College, Springfield, Ohio. Third edition. Cloth. Price, $4.75. Pp. 820, with 335 illustrations. St. Louis: C. V. Mosby Company, 1946.

Divided into four sections, on introductory biology, animal biology, plant biology and general and applied biology, this volume presents the subject in such clearcut fashion that its value, especially to the beginning student, need not be argued. There are numerous special features that are of significance. Among these may be mentioned a comparative study of the ten systems of twenty-eight representative animals, including man. This affords the student an opportunity to grasp the overall picture of biology much more readily. Another is a similar study of fifteen representative plants; still another, presentation of the theories, laws and facts of heredity, well illustrated by examples from the plant, animal and human field. Perhaps the salient feature of the volume is the interlocking of information, giving the student the broadest possible base for appreciation and understanding. There is special material on endocrine glands, especially in man, embryology, structure and function of the human body, and the theories and principles of biology. The book is adequately illustrated with photographs, many in color, drawings and charts which provide helpful interpretation of the text. At the end of most chapters are questions and topics which serve to emphasize the main points of the material just presented. Included in the appendix is a list of prefixes commonly used in biology and a glossary of the important terms used in biology, with their derivation and definition. In addition, there are instructions for operation of an aquarium and for collecting and preserving insects. The volume has a wide field of applicability.

Mother and Baby Care in Pictures. By Louise Zabriskie, R.N., Director, Maternity Consultation Service, New York City. Third edition. Boards. Price, $2. Pp. 203, with 222 illustrations. Philadelphia, London & Montreal: J. B. Lippincott, 1946.

Although the implication in the title is that this is exclusively a picture book, as a matter of fact there is a considerable quantity of text. This obviously is necessary and serves to heighten the general excellence of the publication. It abounds in diagrams and photographs. Printed on glossy paper, these have been given expert attention, and their reproduction is a testimonial to modern printing and photography. Following a natural sequence, the book discusses first the antepartum period. The matter of fact treatment of heredity versus environment, with emphasis on antepartum planning, is refreshing. Every question which might occur to prospective parents appears to be anticipated, and the special advice to fathers is important because it stresses the fact that the father should assume equal responsibility even though it is not his lot to carry the child. Special chapters, all profusely illustrated, are devoted to clothing for mother and baby. Other before-birth details such as nursery needs and preparation for delivery and after-delivery care of the mother and child are presented. Details of attention to the baby, including the bath, dressing, general care, feeding and habits, are given with equal detail and a multitude of illustrative pictures. The extent of the volume can be judged by the fact that there is also a chapter on development of the baby and how to make this a natural and progressive phenomenon and one on preventive care for the child. Especially to be commended is the chapter on management of maternal discomforts such as nausea, heartburn, muscle cramps and pruritus, many of which are treated casually as of only temporary significance but which nevertheless are always annoying and sometimes alarming to the prospective mother. This book serves as a well rounded guide not only to parents but also to practical and teaching nurses.

The Traumatic Deformities and Disabilities of the Upper Extremity. By Arthur Steindler, M.D., F.A.C.S., Professor and Head of the Department of Orthopedic Surgery, The State University of Iowa, Iowa City, in collaboration with John Louis Marxer, M.D., Associate, Orthopedic Department, The State University of Iowa. Cloth. Price, $10. Pp. 494, with 443 illustrations. Springfield, Illinois: Charles C Thomas, 1946.

Dr. Steindler presents in this book material which should appeal both to the student and to the practical surgeon. Here is a methodical and orderly presentation of the mechanics and pathomechanics involved in the function of the upper extremity as a whole and in part, with detailed consideration of specific

injuries and their management. Dr. Steindler is to be congratulated on the masterful way in which he has covered the wide range of deformities and disabilities arising from injury to the upper extremity. The arrangement of subjects is excellent. The short but numerous case reports which follow each section do much to enhance the value of the preceding discussions. As in his book on orthopedic operations, the author presents his end results. These, representing as they do the experience of a large orthopedic surgical clinic, should be of great interest to surgeons seeking critical analyses of various operative procedures. These procedures are described with detailed clarity and further elaborated by a large number of excellent illustrations. A comprehensive and up to date bibliography follows each section. This book will be of great value to orthopedic surgeons in particular and to surgeons in general. It represents a distinct and valuable contribution to the literature of traumatology.

Men and Hunger: A Psychological Manual for Relief Workers. By Harold Steere Guetzkow and Paul Hoover Bowman. Cloth. Price, $1. Pp. 72 with drawings by William Schuhle, graph by William Wallace. Elgin, Illinois: Brethren Publishing House, 1946.

This is a condensed manual for relief workers on the subject of handling starving populations. It is based on the work carried out at the Laboratory of Physiological Hygiene, the University of Minnesota, under a grant from the Church of the Brethren, the American Friends Service Committee, the Mennonite Central Committee, the Unitarian Society, the John and Mary R. Markle Foundation, the Sugar Research Foundation and the National Dairy Council. This work was done with the cooperation of thirty-five conscientious objectors who submitted themselves to semistarvation.

Condensed but complete information is given on how it feels to be starved, what behavior changes are induced by starvation and the reverse changes accompanying rehabilitation feeding. Subsequent brief chapters have to do with helping starving people psychologically, problems related to feeding, problems related to living arrangements and problems related to community government.

The book is directed specifically to the problems which will be faced by staff employees of relief organizations, but it deals with such a fundamentally challenging topic in the light of world events that any one into whose hands it falls could read it with profit and with increased understanding of some of the social and political unrest which pervades the areas where starvation is an aftermath of war.

Health Guides and Guards. By Francis P. Wall, Professor and Director of Physical Training and Hygiene, New York University, New York, and Louis D. Zeidberg, M.D., Assistant in Clinical Medicine, College of Medicine, New York University, New York. Third edition. Cloth. Price, $2.75. Pp. 392, with 12 illustrations. New York: Prentice-Hall, Inc., 1946.

This book is the compendium type in which condensation is the principal characteristic. It appears to be intended for college level and might do for upper secondary.

The authors have been greatly impressed with the so-called conspiracy of silence about sex and the venereal diseases; so much so that they devote nine chapters out of twenty-three to the subject of reproduction, sex and the venereal diseases, only one chapter each to the respiratory, urinary, skeletal and muscular systems, nervous system, endocrines, special senses and first aid, two chapters to the digestive system including nutrition, and one chapter to the teeth. Aside from this overbalancing, the book should be a fairly satisfactory, clear study manual. It is so brief, however, that it can hardly be satisfying to the student or instructor who really wishes to go into the topics covered.

There are some criticisms of the handling of certain topics. The section on burns is inadequate and gives too much encouragement to the application of oily substances without discriminating between superficial and deeper burns. The washing of acid burns with alkali and vice versa is now generally discouraged and replaced with large quantities of clean water. Nothing is said about shock in connection with the first aid treatment of burns. The spread of chickenpox is attributed to the serous secretion in the pox rather than to the generally accepted transmission of a virus through the respiratory apparatus. The treatment of tuberculosis omits any method of surgical rest for the lungs. The material on the adrenal glands is completely in error. The symptoms of Addison's disease are attributed to absence of epinephrine and nothing is said about the cortex of the adrenal.

This cannot be regarded as an important contribution to the literature on health education.

The Diagnosis and Treatment of Pulmonary Tuberculosis. By Moses J. Stone, M.D., Assistant Professor in Medicine, Boston University School of Medicine, Boston, and Paul Dufault, M.D., F.A.C.P., Superintendent of the Rutland State Sanatorium. Rutland, Mass. With a foreword by Henry D. Chadwick, M.D. Cloth. Price, $3.50. Pp. 325, with 93 illustrations. Philadelphia: Lea & Febiger, 1946.

This splendid volume on the diagnosis and treatment of pulmonary tuberculosis is characterized by its brevity and conciseness. The authors have covered all phases of the subject in an admirable manner and have included well chosen and clearly presented illustrations. The twenty-six chapters are devoted to such subjects as the history of tuberculosis, the tubercle bacillus, sources of infection, histopathology and anatomic pathology. The fundamental phases of the examination necessary to arrive at a definite diagnosis are adequately discussed. All well established forms of treatment, including various collapse procedures, are presented with reference to indications and contraindications, together with results to be expected. The final chapter includes a discussion of all the preventive measures that have been found of value. Much deserved credit is given to the veterinarian. When read by students and graduates of medicine, this book will provide information that should be effective in controlling tuberculosis everywhere.

Wm. Beaumont's Formative Years: Two Early Notebooks 1811-1821. With Annotations and an Introductory Essay by Genevieve Miller, M.A. Cloth. Price, $6. Pp. 87, with 21 illustrations. New York: Henry Schuman, 1946.

The author of this book had access to notebooks kept during his youth by Dr. William Beaumont. They are reproduced here exactly as they appear in the original with quotations from some of the literary references to which he had access. They afford also an interesting commentary on the state of education and the social views of his time. Here are a few examples from the notebooks:

"The mind that can amuse itself with the love-sick trash of most modern compositions of novel reading seeks enjoyment beneath the level of a rational being."

"Sal Satyricium, this is very useful for seasoning speeches."

"On candid reflection, one must readily conclude, with Sydenham, that to assist mankind by curing their diseases and repairing their constitutions, is preferable to being commended by them, and highly conducive to tranquillity of mind, popular, applause being lighter than a feather, or a bubble and less substantial than a dream."

The book is replete with travel notes and fascinating reports of cases indicating an extraordinary power of observation.

The Contribution of Latin to English with Special Attention to Medical and Other Scientific Terms and Review Exercises for Self-Instruction. By Charles Barrett Brown, Professor of Romance Languages, Vanderbilt University, Nashville, Tennessee. Fabrikold. Price, $2.75. Pp. 216. Nashville: Vanderbilt University Press, 1946.

Any doctor who has a love of words and who is interested in their Latin antecedents will find this little book full of interesting information. The complete list of words covers every word of classical Latin origin among the first hundred thousand most useful English words. The work is scholarly and should be of great aid to every one who likes to think and write clearly.

Facts About Nursing, 1945. Paper. Pp. 96. New York: The Nursing Information Bureau of the American Nurses' Association cooperating with The National League of Nursing Education, The National Organization for Public Health Nursing, [n. d.].

More than a hundred thousand registered professional nurses volunteered for military service. The figures here made available supply all the factual data as to the distribution of nursing services in the United States and in many other countries, the costs of nursing education, the auxiliary workers and similar subjects.

Queries and Minor Notes

THE ANSWERS HERE PUBLISHED HAVE BEEN PREPARED BY COMPETENT AUTHORITIES. THEY DO NOT, HOWEVER, REPRESENT THE OPINIONS OF ANY OFFICIAL BODIES UNLESS SPECIFICALLY STATED IN THE REPLY. ANONYMOUS COMMUNICATIONS AND QUERIES ON POSTAL CARDS WILL NOT BE NOTICED. EVERY LETTER MUST CONTAIN THE WRITER'S NAME AND ADDRESS, BUT THESE WILL BE OMITTED ON REQUEST.

FUNGOUS INFECTIONS OF NASAL SINUSES

To the Editor:—**A white man aged 56 was first examined in January 1946 for focal infection because of acute inflammatory arthritis of the right knee. Examination disclosed a cloudy right maxillary sinus, which was irrigated and the contents of which showed Actinomyces in smear and culture. On Jan. 30, 1946 the right maxillary sinus was opened through the inferior meatus and a large nasoantral opening made. The interior of the sinus was covered by a thick gray and yellow fungous mass. Postoperative treatment has consisted in biweekly instillations of iodized oil into the sinus, continuous Lugol's solution to the point of tolerance and two series of x-ray treatments through two ports consisting approximately of 1,600 roentgens in each series, 200 kilovolts and 0.5 mm. copper and 1 mm. aluminum filter. At present the patient is symptom free, but examination of the interior of the sinus reveals the same gray and yellow fungus covering the interior. Other areas of infection have not been found. The arthritis subsided soon after the sinus was opened. Please discuss further therapy.** M.D., Texas.

ANSWER.—Fungous infections of the nasal accessory sinuses are rare and the situation described is of both clinical and didactic interest. It is assumed that all teeth bordering the maxillary sinus have been carefully studied as a possible source of the original infection. Since some strains of Actinomyces are obligate anaerobes, the nasoantral opening probably served to prevent further extension of the disease. Cultures (aerobic and anaerobic) of the sinus cavity should be repeated. If negative for Actinomyces, a small piece of tissue may then be removed for culture and microscopic study. Recent literature contains references to the successful use of penicillin and sulfonamides in the treatment of actinomycosis, though varying susceptibility of the organisms to these drugs has been noted. Should the discolored membrane persist after a trial period of penicillin or sulfonamides, the degree and extent of the mucosal thickening can be determined by x-ray studies with iodized oil. If there are signs of hypertrophy or polypoid degeneration of the sinus mucosa and no clinical or bacterologic evidences of active infection, it might be justifiable to expose the sinus through the canine fossa and carefully strip away the entire lining of the cavity. Bone trauma should be minimized, and it would be well to employ systemic penicillin therapy in both preoperative and postoperative phases.

FEMORAL VEIN LIGATION

To the Editor:—**An accepted contraindication to ligation of the great saphenous vein is a thrombosed deep venous circulation as evidenced by a positive Perthes test or a history of a "milk leg." In an article by Buxton, Farris, Moyer and Coller on the surgical treatment of deep phlebitis in the May Issue of *Surgery*, the statement is made on page 755 that "patients with clinical and venographic evidence of deep thrombophlebitis whose symptoms have failed to improve following high and low ligations of existing varicosities in the superficial venous systems have been advised to have ligation of the femoral vein." How will the blood return with both the superficial and the deep systems tied off? Are there any contraindications to ligation of the femoral vein, except perhaps arterial disease?** M.D., New York.

ANSWER.—The article referred to in the inquiry has created considerable discussion among those interested in vascular surgery. Buxton and his co-workers have laid stress on the point that the venous reflux in the standing position is responsible for much of the edema and disability which arise when deep phlebitis destroys the valves of the veins. On the other hand, ligation of deep veins, while it may decrease the back pressure from above, certainly interferes with venous return, which fortunately is still possible when both the saphenous and the femoral vein are tied. Such channels connect lower segments of the superficial and deep veins with the hypogastric, lumbar and intercostal veins, thus draining the blood into the vena cava. The procedure in this situation seems unphysiologic and will no doubt be entirely abandoned. It is also doubtful whether a saphenous vein should ever be ligated when the deep veins are obstructed.

This does not mean, however, that femoral vein ligation should never be undertaken. It is definitely indicated when an acute deep venous thrombosis is present below the junction of the superficial femoral with the common femoral vein. Such a ligation with an intact deep femoral and saphenous vein leaves very little edema if these two channels are kept open with postoperative anticoagulants. Should the venous thrombosis be in the iliofemoral segment, a ligature of the common iliac vein provides for a better venous return than that of the common femoral vein. When finally both iliofemoral segments have been affected and pulmonary infarction has occurred, ligation of the vena cava is worth considering, for this produces less permanent edema than that produced when the saphenous and femoral veins are tied at the root of the limb because the most important auxiliary channels drain the blood through the lower segments of these veins.

MARRIAGE AND POSITIVE SEROLOGIC TEST FOR SYPHILIS

To the Editor:—**A white man aged 26, single, was inducted into the Army of the United States May 1943 and after service overseas was discharged in January 1946. He required no medical or surgical care except for trench mouth in October 1945, which was cured in a few hours by penicillin mouth wash. Immediately afterward he developed irritation of the glans surface and under surface of the prepuce. Dark field examination was reported positive for Vincent's organism and negative for Treponema pallidum. After penicillin solution irrigations of the preputial cavity for twenty-four hours, all evidence of irritation disappeared. The man denied any exposure to venereal disease prior to entry into the army, during his period of service and since leaving it. It is assumed that his serologic reaction on induction and separation from the armed forces was negative. The patient has been "promised" since 1938 and sought marriage on June 8, 1946. All arrangements for a high religious service had been made prior to undergoing premarital blood tests. The report for the girl was negative; the report for the man was 4 plus. Repeated on no less than three occasions with banks of various technics, the reports have been either 3 or 4 plus each time. Physical examination has disclosed one slight split in the mucous membrane at the mucocutaneous junction of the anus. Repeated search with dark field technics disclosed no treponemes. Examination under good daylight and under "black" light has disclosed no cutaneous eruptive lesions. The accessible lymph nodes are palpable, but no single node is enlarged greater than the others. The oral mucosa is free of lesions. Physical examination was otherwise completely negative. As a soldier, the patient had received various inoculations, both on induction into the service and in June 1945 in Italy (repetition of influenza injections). 1. Assuming the serologic test on separation Jan. 28, 1946 to have been negative, is the present positive serologic result due to recently acquired syphilis? 2. Should the patient be permitted to marry now? 3. Should the newly married couple abstain from intercourse entirely (religious teaching forbids contraceptive methods)? 4. What should be done for the expectant bride now negative serologically and clinically although exposed by kissing since February 1946, assuming the patient to be recently infected? 5. Should marriage be forbidden? Until when? 6. What should be done in the interval? 7. If antisyphilitic treatment is advised, why? What treatment? For how long? For one or both parties? The answers of your experts should be personalized rather than general. Each should place himself in the situation of the patient. Each should regard himself as the father of the expectant bride.** M.D., New York.

ANSWER.—The "expert" who answers this inquiry would prefer to put himself not only in the position of the father of the expectant bride but also in the position of doing as thorough a job as possible in elucidation of the problem posed.

1. One would like to have further information concerning the possibility of extraneous factors which may have produced a biologic false positive serologic test, such as the date of the last vaccination for smallpox, possible history of blood donations for transfusion or of acute illnesses, including infectious hepatitis, malaria and infectious mononucleosis.

2. Assuming the patient's denial of any sexual exposure during the entire life to be correct, what of the patient's immediate collateral family—father, mother, brothers and sisters—have they been examined?

3. Has the patient's "4 plus" blood test been quantitatively titered, and if so by what technic and with what results?

4. Has the patient's blood been tested by Dr. Hans Neurath of Duke University, who has developed a technic helpful in differentiation of false from true positive tests?

5. Has the spinal fluid been examined and, if so, with what results?

6. With this information in hand and making the various assumptions stated by the inquirer, answers to the several numbered questions may be given as follows:

(*a*) It is highly improbable that the present positive result is due to recently acquired syphilis. Quantitative titration may be helpful in further elucidation of this point since, by and large, early syphilis carries a high titer, whereas patients with biologic false positive tests or with old, long standing syphilitic infection may have low titers.

(*b*) Medical "permission" for marriage for a patient with syphilis or with suspected syphilis depends on a number of factors. The doctor is primarily concerned with making certain that the prospective marital partner knows the facts; permission for marriage need be withheld only on the ground of infectiousness. If this patient has not been recently infected with syphilis, the risk to the marital partner is minimal. Considering the entire situation, however, both from the standpoint

of the physician, the bride's father, the bride herself and the prospective groom, it would seem desirable to postpone the marriage until the present situation has been further clarified.

(*c*) Postponement of marriage would take care of the question of abstinence from unprotected sexual intercourse.

(*d*) Assuming the patient to have been recently infected, an assumption which on the basis of the evidence seems unjustifiable, the bride's exposure by kissing should be followed with blood serologic tests at monthly intervals for the next four months.

(*e*) See *b* and *c*.

(*f*) The patient should see a competent syphilologic consultant as promptly as possible.

(*g*) Antisyphilitic treatment should never be advised on general principles and should certainly be withheld from the groom until a decision can be reached that he probably or definitely has syphilis. What kind of treatment and how long depends on the definition of the type of syphilis, if possible. The same applies to the bride.

The completeness of the inquirer's records in the case certainly indicates his own realization that mail consultation in such a situation as this is far less satisfactory than personal consultation and complete study of the problem by a syphilologic expert. The inquirer asks for an individual rather than a generalized opinion, although the former can hardly be given on the basis of any written record, no matter how complete.

SOLVECILLIN

***To the Editor:*—Indurated masses in the buttocks have been noted following the use of 100,000 units of penicillin in 2 cc. Solvecillin. How harmful is it to use such mixtures daily for about a dozen injections? What does the Solvecillin produce within the tissues?**

M.D, New York.

ANSWER.—So little clinical and experimental work has been done with "Solvecillin" that it is difficult to answer the question of how harmful the local reactions may be. No information is available in the literature concerning the reaction in the tissues following "Solvecillin." Until such information is forthcoming, it would be well to use other preparations that have been tested and approved by N. N. R.

Recent reports have been most enthusiastic about the use of penicillin on both a local and a systemic basis. In addition the use of tobacco and alcohol should be prohibited and a light diet, catharsis, bed rest and local oral hygiene should be prescribed. One should remember that blood dyscrasias, heavy metal intoxication, certain infections and vitamin C deficiency should be considered in the differential diagnosis.

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NONSPECIFIC URETHRITIS

***To the Editor:*—A white man aged 37 complains of a urethral discharge of three months' duration. Apparently, various smears were negative for gonococci. He had been seen by three other physicians and has received both sulfonamide and penicillin therapy, in what amounts I do not know. When first seen two weeks ago, a few trichomonads were found in his urine specimen and the urethral smear showed mixed gram positive and negative cocci and a few gram negative bacilli. He has improved somewhat on rather heroic doses of atabrine, and penicillin has cleared up his secondary infection. However, he still has a few trichomonads in his prostatic secretion. What is the accepted treatment of trichomonas urethritis and prostatitis?**

William E. White, M.D., Anniston, Ala.

ANSWER.—The patient described apparently has a nonspecific urethritis. With a history of previous attacks of urethritis and shreds in the first voided urine a urethral stricture would be suspected. It has been shown that 10 per cent of urethral strictures have trichomonads in the urethral secretions, urinary sediment or prostatic fluid. Chemotherapy or penicillin does not have any effect on the trichomonads.

If a stricture is found, the urethra should be dilated to the maximum caliber. Urethral instillations of 1:2,000 neutral acriflavine solution might help. In the absence of a stricture or pus in the prostalic fluid, this patient could be a Trichomonas carrier. The patient's wife, if he is married, or contacts should be examined as a source of reinfections.

In a few cases intraprostatic injections of weak colloidal silver solutions have cleared the trichomonads from the prostate.

PERIPHERAL VASCULAR SCLEROSIS

***To the Editor:*—Please discuss treatment (other than hypertonic saline and foreign protein) for thromboangiitis obliterans in a man aged 80. The left foot anteriorly is involved, with ulceration of the big toe.**

M.D., Saskatchewan.

ANSWER.—It would be difficult to make a diagnosis of thromboangiitis obliterans (Buerger's disease) in a patient aged 80 unless the symptoms of vascular insufficiency date back forty to fifty years. It is more likely that he suffers from peripheral vascular sclerosis with or without diabetes. An embolus from mural cardiac thrombosis or from an aortic atheromatous plaque is another possibility. Conservative treatment consists in absolute bed rest for weeks, abstinence from tobacco, intermittent venous hyperemia and a combination of theocalcin 7½ grains (0.5 Gm.) with papaverine ½ grain (0.032 Gm.) three times a day. If pain is severe and the process ascending, amputation at the level of circulatory efficiency should be considered. No other method of treatment is of much avail.

EXPERIMENTAL PRODUCTION OF MIGRAINE HEADACHE

***To the Editor:*—Is there a convenient method for reproducing migraine headaches? Has histamine acid phosphate been used for this purpose? What is the technic and how is the headache relieved?**

R. H. Intress, Lieutenant M. C., A. U. S.

ANSWER.—There is no satisfactory method of experimentally inducing attacks of migraine in persons who are susceptible to them, although histamine diphosphate has been successfully employed in inducing attacks of histaminic cephalgia. The latter syndrome has perhaps often been mistaken for migraine, but the two disease entities are separate and distinct.

In man, histamine dilates both the intracranial and the extracranial arterioles, venules and capillaries. The subcutaneous injection of 0.35 mg. of histamine base will usually precipitate an attack of histaminic cephalgia in a person having this disease entity. A physician, in conducting a provocative test, must differentiate between the immediate generalized headache which will often occur (and which subsides in twenty minutes) and the typical histaminic cephalgia attacks which may develop thirty to fifty minutes later.

Reference:

Horton, B. T: The Use of Histamine in the Treatment of Specific Types of Headaches, THE JOURNAL, Feb. 1, 1941, p. 377.

RELATION OF METAL DUSTS TO PNEUMONOCONIOSIS —THERAPEUTIC PNEUMOTHORAX

***To the Editor.*—Is it true that recent investigation disproved the metal dusts to be a causative factor in pneumonoconiosis? Is the institution of pneumothorax for pulmonary tuberculosis in the office a recognized procedure at this time?**

M.D., Connecticut.

ANSWER.—Experimental studies have demonstrated that inhaled metal dusts are not a cause of fibrosis of the lungs. Some of them may provoke slight amounts of chronic inflammation in the walls of the blood vessels, but this reaction is apparently without clinical significance. The important pneumonoconioses are the result of inhaling free silica, which is often associated with metals in nature. Mining of ores involves exposure to both metallic and rock dusts. In grinding operations metallic particles may be liberated in the atmosphere. If the grinding stone wheels contain free silica, the dust from them produces disease. Most of the modern grinding is done with synthetic abrasives like aluminum oxide or the carbide of silicon, which are not capable of causing fibrosis.

The institution of therapeutic pneumothorax for pulmonary tuberculosis should be done in the hospital, but refills are customarily performed in the doctor's office.

QUANTITATIVE DETERMINATION OF BLOOD EPINEPHRINE

***To the Editor:*—Is there a practical method for the quantitative determination of epinephrine in the blood? It is well known that the concentration of epinephrine varies in different states such as mental depression, fatigue, euphoria and fright.**

Carey P. McCord, M.D., Detroit.

ANSWER.—Despite many attempts, no method has been devised for the quantitative determination of epinephrine in the blood which can be called practical. The available tests, whether biologic or chemical in nature, are lacking in sensitivity or specificity, their results are not reproduceable, or they must be performed by specially trained personnel. Furthermore, statistically significant knowledge of their results in man is not available.